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ON THE UTILITY OF THE OXYGENATED MURIATIC ACID IN THE CURE OF SCARLET FEVER, *with an easy Mode of preparing it for Medical Purposes*; *by* JOHN AYREY BRATHWAITE, *Member of the Royal College of Surgeons, in London, and Surgeon to the Lancaster Dispensary.*

HAVING frequently experienced the inefficacy of the common mode of medical practice in the scarlatina anginosa, I have been induced to make some inquiries into the nature, cause, and treatment of that disease, which has been prevalent in this town and neighbourhood for three years last past; the result of my observations have been the discovery of a remedy in this disease, which is as much entitled to infallibility as mercury in the lues, or bark in the ague; it is easily prepared by any apothecary, of materials with which his shop is or ought to be always supplied, and requires no complex pharmaceutical apparatus, by which often those unaccustomed to practical chemistry are liable, even from proper materials, to prepare chemical preparations totally different in their properties from those intended.

As I have no doubt but the contagion of the scarlet fever produces an extraordinary degree of dis-oxygenation of the system, with great debility, and exhaustion of the sensorial power, I was led to suppose that oxygen, exhibited in some easy and pleasant manner, might not only destroy the contagious matter adhering to the tonsils, uvula, &c. but by penetrating the fine moist membrane of the lungs, and by chemical attraction uniting with the blood, excite the action of the arterial system, warming the extremities, increasing insensible perspiration, exhilirating the spirits, and invigorating the vital principle without exhausting it, would prove an efficacious remedy in this but too fatal disease. This I have experienced in the oxygenated muriatic acid, whose known property of destroying

putrid miasms, and preventing infection, in a gaseous state, has totally abolished the absurd farragos of antient practice.

Variolous and vaccine virus exposed but for a moment to the vapour of oxygenated muriatic acid, lose their contagious properties, and the latter rubbed with one eighth of a grain of oxyde of iron *(rubigo ferri)* will rarely communicate the disease; what then may we not expect from this active and elegant preparation? Elegant I may justly intitle it, as, when properly prepared and sufficiently diluted, it may be administered to patients of all ages, being a safe and efficacious remedy, possessed of a slight degree of grateful acidity.

When called to a patient in whatever stage of the scarlet fever, my practice for two years last past has uniformly been as follows: One drachm of oxygenated muriatic acid is mixed with eight ounces of distilled water in a phial and shaken together; this quantity should be taken every twelve hours, by a patient from fourteen to twenty years of age, but it is preferable to administer it in draughts divided from the quantity above mentioned, into ℥ij. ℥jß. ℥j. and ℥ß. bottles, as the patient's age and situation require, ordering them to be taken at such periods as for an adult to consume the quantity in the time mentioned, and to younger patients smaller doses, as half a drachm or two scruples of the acid to eight ounces of water. By this method, the oxygen gas is not separated and lost, each time the phial is opened, as may easily be perceived by its smell in the apartment; it is also absolutely necessary the medicine be placed in a dark situation, wrapped in paper, to prevent the dis-oxygenating influence of light.

Since the use of this medicine, I have never had recourse to emetics, purgatives, blisters or diaphoretics, a regular perseverance in the oxygenant remedy has universally succeeded, my patients rapidly recovering, and being seldom afflicted with those complaints succeeding the scarlet fever, such as pain of the joints, paucity of urine, and universal anasarcous swellings; even should these follow, I recommend a continuance of the medicine, until these symptoms entirely disappear, which will be found much earlier than by the usual mode of treatment; indeed, if the oxygenated preparation is duly persevered in, I am of opinion those painful and distressing affections will rarely occur. It is also possessed of this desirable property, that it may be easily taken by children, who generally are the most numerous patients in this disease, and to whom all medicines

medicines are administered with difficulty. I have heard them frequently cry for *that stuff which mended their throat*, as they expressed it; indeed, in that respect, its effects are truly admirable, far surpassing the disagreeable practice of gargling and syringing, which in numerous instances, even if possible to do it, is productive of mischief; how far superior then must be a remedy which by passing over the infected and frequently ulcerated part immediately, not only gives instantaneous relief, but entirely removes that fœtid smell originating in several cases from these parts? Patients often wish to be frequently sipping a little of the oxygenant liquid, which is not improper, but it must be always done out of a wine glass, as admeasurement with a spoon is dangerous, the oxygen rapidly oxydating the metal of which it is composed, and by that means conveying into the stomach a poisonous fluid, from which death might ensue.

The muriatic acid has long been used as a medicine, and Sir William Fordyce strongly recommended it in the ulcerated sore throat and putrid fever, but the oxgenated muriatic acid has, I believe, been rarely employed. Dr. Crawford* once took twenty drops of it diluted with water, but soon afterwards found an obtuse pain with a sensation of constriction in the stomach and bowels; this uneasiness, notwithstanding the use of emetics and purgatives, lasted for several days, and was at last removed by drinking water impregnated with sulphureous hepatic air; this effect he attributes to the manganese which had been used in the distillation of the acid, containing a portion of lead; I should rather suppose it proceeded from the dose of twenty drops being taken; oxygenated muriatic acid readily gives to living animal bodies its super-oxygen, and the remains are common muriatic acid, a dose of which, similar to the above, would undoubtedly in delicate constitutions produce similar effects. In no case whatsoever have I found it necessary to exceed the quantity before mentioned, but it has sometimes been done by my patients, through an anxious desire to get well; the same uneasiness has however been produced as mentioned by Dr. Crawford, though the preparation was made so as not possibly to contain either lead or any other metallic substance.

To prepare the oxygenated muriatic acid in a perfect state of purity; put two ounces by measure of distilled

* Philosoph. Trans. vol. 80.

water into a narrow tubulated bottle, with a ground glass stopple; into this gradually pour, by measure also, as much muriatic acid, the specific gravity of which is as 1170 to 1000 of distilled water, frequently shaking the phial; add then to it two drachms of oxy-muriate of pot-ash,* which in a little time will fall to the bottom, the acid seizing the small portion of alkali, and leaving beautiful globules of vital air, which rise slowly towards the surface, diminishing as they ascend, super-oxygenating the acid; a little agitation now and then facilitates the process, but it will be three or four days before the acid becomes extra-oxygenated; the stopple should be put loosely into the phial, and tied over with a piece of bladder, but not too tight, allowing it to move when the gas is rapidly extricated; this process should be performed in a dark situation, and the oxygenant medicine after preserved by putting over the bottle a circular piece of pasteboard, to prevent it from being injured by the dis-oxygenating power of light.

It is not in scarlet fever only that this preparation promises to be of advantage, I have found it useful in angina maligna, and other diseases proceeding from or producing a dis-oxygenation of the blood; in many lingering cases of the late influenza, it was exhibited with evident advantage in the doses above mentioned.

From the trials made by Guyton Morveau and others, it appears that the oxygenated muriatic acid, in a gaseous form, possesses the power of neutralizing and destroying contagious miasmata, even in rooms where the sick are present, without the slightest inconvenience; possessed of amazing expansibility, this gaseous oxygenant diffuses itself over the most extensive apartments, leaving nothing untouched, and touching nothing it does not appropriate, rapidly oxydating metallic bodies, particularly iron and steel, which should be removed, and radically destroying the most offensive odours, thereby rendering innocuous perhaps deadly contagious poisons.

To completely purify any apartment when a patient suffers in the scarlet fever, or any other contagious disease, so as to render it perfectly safe, not only to the attendants but to the rest of the family, take a china tea cup and saucer; put in the cup two ounces of common salt, and half an

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* The best oxy-muriate of pot-ash I ever had, was made by Mr. Hoyle, an ingenious chemist in Manchester, 100 grains yielding nearly 74 cubic inches of oxygen gas.

an ounce of the black oxyd of manganese, previously p[ow]dered with one ounce of water; then take an ounce an[d a] half of sulphuric acid, and pour a little of it now and th[en] into the tea cup, among the other ingredients; immediate[ly] an amazing quantity of oxygenated muriatic acid gas wi[ll] be disengaged and fill the apartment; this should be suffe[r]ed to remain only a few minutes, removing it out of th[e] room into the stair-case, by which means the whole hous[e] will be become impregnated with this gaseous oxygenant; it will be proper to take it into the room frequently during the day, adding to it a little fresh sulphuric acid, and then replacing it in its former situation.

It was my intention to have transmitted a more minute account of the scarlet fever, and its mode of treatment by this oxygenant remedy, illustrated with cases; but suffering at present under an arthritic complaint, I found myself inadequate to the undertaking; perhaps, at some future period, I may again take up the pen to corroborate what I have asserted; should this, however, be the means of rescuing one individual from a premature grave, the intention of the writer will, in some degree, be accomplished.

Lancaster, March 1, 1804.

Case of Extra-uterine Pregnancy; *communicated by* Mr. T. M. Kelson, *of Seven Oaks, Kent.*

In the month of June 1801, I was sent for to Mrs. Townsend, the wife of a reputable farmer in an adjoining parish, who was suffering very considerable pain from a partial suppression both of urine and stools. Upon inquiry I found she had sufficient reason to suppose herself about ten weeks gone with child, having missed her courses two successive periods, a very trifling appearance at the end of each month excepted. During this visit I did not think it necessary to examine her, but ordered an opening medicine which afforded her much relief. In the course of a few days she was suffering again in the same way, and was relieved by the same means. Shortly after a total suppression of urine took place, and upon examination I discovered, as I then supposed, that it arose from a retroversion of the uterus, the lower part of the pelvis being completely filled with a hard tumour and the os tincæ not to be found without much difficulty. I relieved her with the common female

 catheter,

eter, to which I was obliged to have recourse for a night longer. At the end of that time the impediment, I had foretold, was suddenly removed, the uterus taking etty much its natural situation. From this time she went in the usual way, gradually increasing in size, and the otion of the child became daily more and more sensi-ly felt, and as she further advanced it became very strong, but she always told me that it was very different to what she had felt with her former children, that it appeared never to move in front, but on each side and at her back bone; this I little attended to, as I was then quite unsuspicious of her true situation. I had fixed her time for the middle of January 1802. She herself thought that it would be in the beginning of the month, and on the first evening of the month she was in so much pain as to send for me; I found upon going to her that her pains were periodical, and had quite the appearance of beginning labour, however as they were not very quick or pressing, and having another engagement, I left her with the full expectation of being again called in the night; but that was not the case. I learnt the next morning that the same sort of pains continued three or four hours after I left her, that she then went to sleep, and was quite free from them upon waking; the child at this time was in strong motion. From this period I heard no more of her for three weeks, when I was called in great haste, and upon my arrival the pains were much stronger and quicker than before, so much so, that I was induced to remain with her five or six hours. They then having gradually subsided, I went away without examining her. After this I visited her daily; she continued languid and unwell, and on the fourth day she had shiverings, succeeded with some feverish heat. Her breasts began filling with milk, and by no means in a small degree, for on the fifth day they were as painfully distended as one usually meets with in a healthy woman who had been delivered that time. All these symptoms were more than sufficient to make me suspect, what upon examination evidently appeared to be the case, that the fœtus was extra-uterine. Upon the first and every other examination, I found the parts somewhat in confusion, the child plainly to be felt through the vagina, the uterus not enlarged, but forced upwards and forward, the os tincæ quite closed; from this last day of pain, all motion of the child ceased. A month after she became regular in her female health, and has without interruption continued so to this time. From the constant weight of the

the tumour it appears to be sunk lower, and I think s what lessened in size, but she has still the appearance woman far gone with child; there are prominent and pr sharp points in the tumour, which when pressed ca considerable pain to the intermediate parts, and there pears, on the left side to be nothing more interveni than the muscles and integuments. It is difficult to a count for its quiet and inoffensive retention. Hither Nature has made no efforts to get rid of it. From th pressure on the bladder and the rectum, she has frequent inclinations to make water and go to stool, but the general state of her health is very good. She was thirty-seven years of age when this pregnancy first began, and had not been with child for nearly ten years. Before that period she had five children, and her last labour she describes as a very difficult one. She is naturally a thin, spare chested woman, having scarcely the appearance of breasts when not with child; but what is peculiar, they are now very large, and have always some milk in them. For a considerable time after the death of the child, the milk was continually running out. At the end of two months, I think she would not have made a bad wet nurse.

This Case I meant for publication in the month of April last year, thinking it might be a great length of time, if ever, that I should have any thing further to add, but on the very day I drew it up my patient sent for me. I found her in bed with a very severe attack of influenza, which terminated in a violent cough. This in her situation was particularly painful and troublesome, and seemingly had the effect of altering the position of the tumour, as she again was troubled with suppression of both urine and stools, and was thus tormented, with the addition of sharp throbbing pains in her back, for some weeks. At the same time her general health and appearance were daily getting worse. Menstruation ceased, she had violent night sweats, a total loss of appetite, and other very alarming complaints, when suddenly a large quantity of very putrid slimy matter was discharged per ano; this evacuation, to a certain degree, continued several times a day for a month or more. By the immediate reduction of the tumour and other circumstances, I had no doubt but a communication was formed betwixt it and the rectum. Of this I was shortly fully convinced by the expulsion of the bones of an arm, and since that, at different times, of every bone of the fœtus, excepting those of the head, which I do not despair

of

dding to my collection. From the time that Nature id out this extraordinary way of getting rid of her then, my patient began to improve. She soon became gular, her appetite returned, the cough and night sweats sappeared, and she is now, independent of some local ifling inconvenience, enjoying very good health.

March 10th, 1804.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

IT must ever be the wish of the enlightened and liberal part of the profession, to impart for the good of mankind, that knowledge, which their practice and experience teach them to be worthy the attention of the medical world; and in my opinion the present critical juncture of affairs in a peculiar manner proclaims the necessity of contributing one's mite towards that fund which constitutes the methodus medendi in the department of Surgery.

On Sphacelus.

Two cases of this kind have lately come within my notice, wherein soda nitrata or nitre, has completely checked the progress of mortification. The first time I had recourse to this remedy, (which may justly be termed a sovereign one) was whilst I was Surgeon of His Majesty's Ship St. George; it was applied to a man's foot which was wounded with a cannon shot in an action near Cadiz; a mortification took place soon after the accident, owing to the irritation of splinters or spiculæ impacted in the tendinous and nervous parts, (so small as not to be discovered at first) and the destruction of the soft parts. The usual remedies in such cases were had recourse to; such as washing the mortified parts with spt. terebin. vini, &c. vinegar, and fomentations of bark, but without perceiving any benefit resulting from their application. The fœtor emanating from the wound, which was black and cadaverous, was not at all corrected, nor was any separation of the sphacelated parts perceptible; on the contrary, the disease was spreading rapidly all over the foot. In this dilemma revolving in my mind the various antiseptics which the materia medica afforded, I luckily thought of nitre, and began to use it

very

very finely pulverized in large quantities, sprinkling it all over the wound, covering it so perfectly, as to enable me to make some degree of pressure without soiling my fingers, for the purpose of promoting its union with the mortified parts; the wound was dressed three times a day as the climate was warm, and the danger from absorption consequently great. In the course of twelve hours the disagreeable stench issuing from the wound, which before was so extremely offensive as to make the nurses sick, was now quite gone, the extent of the mortification was soon discovered by a line of separation surrounding the wound; here the beneficial effects of the nitre were very evident both as far as related to its antiseptic as well as stimulant power, the former in subduing putrefaction, the latter by restoring energy and activity to the living parts, sufficient to enable them to throw off the causa nocens.

It may seem unnecessary to mention that as much of the sphacelated parts as could be removed by the assistance of the scissars and forceps, were taken away at every dressing, and the wound well washed, sometimes with vinegar, at other times with decoction of cinchona. By perseverance and strict attention to the above remedies, particularly the nitre, though the patient was reduced to the lowest ebb of human misery, which was sufficiently evinced by symptoms the most distressing and alarming, such as yellowness of the skin, a black furred tongue, tetanus, and some degree of locked jaw, extreme debility, quick and fluttering pulse, he was restored to health.

I found in this case, as I have done in many others, the exhibition of bark in substance do great mischief, though not given to near the amount recommended by some medical writers. One would imagine some medical authors were afraid of deviating from the paths of their predecessors, when they are found slavishly subscribing to their rules, whilst the conviction of their own experience should teach them the folly, and even criminality, of recommending medicines, which cannot boast of that consequence or efficacy, which they have laboured to bestow upon them.

It generally happens, as it did in this instance, that, though the patient previously to its administration, shall have some appetite, it soon fails, and the space of twelve hours entirely deprives him of all inclination to eat; his fever increases, and he loaths every thing offered him in the shape of food. This is not the worst consequence, the medicine at length proves so nauseating and disgusting, that the stomach, as if conscious of the violence done to it, arms itself with the resolution of rejecting this inhospitable

ble and noxious tenant. Such is the remedy employed by the vis medicatrix naturæ, to rid herself of matter so heterogeneous and offensive to this delicate organ, the primum mobile of the system. Nor can it be wondered at that this should happen, when you reflect on the indigestible nature of bark, however finely it may be pulverized; the human stomach is not like that of the ostrich, it will not digest iron; and it does not require much penetration to discover, that the digestive faculties of this noble organ are greatly impaired by disease: then how can it be supposed that a substance, which may with the greatest propriety be termed foreign, should not prove injurious, when other things, mild and congenial to it in a healthy state, are now offensive?

It is not my wish to have wrong inferences deduced from these observations, I have said enough to convince that I am inimical to the exhibition of bark in substance; yet I would not have it imagined that it cannot be employed with advantage in any form; indeed, I think far otherwise, for I am persuaded it is of infinite service when given in decoction, when you can augment or diminish its strength ad libitum, without clogging up the stomach with a mass of heterogeneous, indigestible matter; an advantage which will appear to every unprejudiced mind, of the greatest importance, as far as relates to the welfare of the patient and success of the surgeon, whose anxiety must ever be commensurate with the danger and difficulty of the case.

The other instance wherein the same plan of cure was adopted with success, was a mortification of the leg, originating from an ulcer, which degenerated into this state, from poor living and bad treatment of a pauper belonging to this place.

I am, &c.

Romsey, March 14, 1804. RALPH CUMING.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

IT is impossible, I believe, for any candid observer to peruse our present metropolitan pharmacopœias, without deploring the great dissimilarity so conspicuous, not only in the nomenclature, the arrangement, the choice of *formulæ*,

formulæ, but often, which is the most material fault, in proportion of an essential article in the same identi[illegible] compound. Whether we compare the pages with eac[illegible] other in either volume, or contrast the dispensatorie[illegible] themselves, we cannot but lament the great disparity; the want of precision, uniformity, and simplicity; and that, in respect to nomenclature, there should be so much dissonance of opinion on what ought to be retained and what rejected.

On this subject, which may, perhaps, be properly termed *national* pharmacy, much remains to be done; reform, and very great reform indeed, seems still wanting to render a pharmacopœia more generally acceptable, free from errors, and divested of those numerous ambiguities which disgrace its pages; in short, a pharmacopœia truly deserving the epithets *Imperialis Britannica*. I fear, however, unless a deputation from each college be authorised to take upon them to execute this important work, we must in vain look for unanimity and for that degree of improvement which, from the late rapid advances in chemical knowledge, we have a right to expect; and which, on account of the present happy union of these realms, seems now loudly demanded.

My motives for addressing to you the following observations, arise more from a wish to prompt some of your numerous correspondents, whose time and abilities render them more capable to take up this subject, and point out what ought to be done, and how best effected, than from conviction of my own competency. It may, however, be expected that I should accompany this general disapprobation with some reasons or proofs on which it is founded. I shall, therefore, for the present, content myself with offering a few examples, and in a very unmethodised and summary way, point out what I conceive to be culpable, leaving the subject still open to any future or more extended discussion. As the greater part of the objections are to be deduced from the *Pharmacop. Edinb.* it may be proper, once for all, to declare, that I have selected this work in consequence of its having been published at the latest period, and, therefore, more to be depended upon for perfection: I am also induced to make this choice from a firm belief that the College of Edinburgh stands second to no other in reputation, more especially for every branch of medical science.

In the Ph. Edinb. we find the same name sometimes put adjectively, at others as a substantive, and without any apparent

pparent intention; on the contrary, for obvious reasons, rather liable to lead into error. We observe *opium, opiat*— —*scilla, scillitica*—*camphora, camphoratum*—*ammonia, ammoniatum.* The adjective *compositum* is applied at random in all its cases. Why add it to *tinct. cassiæ sennæ* and not to *tinct. mimosæ catechu?* Why tack it to *pilulæ rhei?* There is no other *formulæ* with which these may be confounded. *Compositum* is, nevertheless, often omitted where it ought to have been added. It seems a general resolution to apply the Linnæan names, together with all their systematic, generic, and specific expletives and appendages. This, I am fully persuaded, was never intended by that celebrated author; any farther than in systems of botany, natural history, and in a few other similar productions, these names seem inadmissible. In every *materia medica,* they ought to stand first among the *synonima;* and in determining the proper title for each *formula,* that name should be chosen which is short, free from ambiguity, and that has been, and is likely to remain, most universally intelligible. There is certainly as much impropriety in discarding *alumen, olibanum, minium, lithargyrus, cerussa, nitrum, galbanum, cicuta, cinnabaris, calamine,* and an infinite number of simple names, with which we are well acquainted, as it would be were the geographer to expel the word *ocean* or *sea* out of his vocabulary, and substitute *solution of muriate of soda, magnesia,* &c. or the physician who would expunge the word *water,* and order his patient to be immersed in some warm *oxyde of hydrogen.* The new chemical nomenclature is certainly inadmissible, in its full latitude, into pharmacy; we may, no doubt, take great advantages without rendering the titles of the necessary compositions so excessively verbose, so periphrastic, and full of circumlocution.

Gummi Arabicum is now changed for *gummi mimosæ niloticæ,* as if any danger could arise from retaining the former. *Gummi* is retained in the *emulsio gummi mimosæ niloticæ,* and omitted in the *mucilago.* Another formula, having the same ingredient for its basis, is named trochisci *gummosi;* and we have also, strange to tell, *emplastrum gummosum:* this, however, contains no *gum. mimos. nilot.* but is composed of empl. litharg. *gummi resina ammoniaci,* and *gummi resina bubonis galbani.*

The pilulæ *opii* of the Ph. Lond. may be said to be the proper parallel to pilulæ *opiatæ* of the Ph. Edin. but the former contains one-*fifth* of its weight of opium, and the latter only one tenth! It might appear invidious were

I to say which College is to blame for not correcting this dangerous inequality; there should be no disparity in a composition of such moment, and of such consequence to the lives of the inhabitants in all the sister kingdoms, from all parts of which prescriptions are reciprocally and constantly sent. *Pilulæ hydrargyri* of both the colleges are in the same predicament, in respect to the proportion of the mercury; that of the London Disp. contains one-*third* of its weight; that of the Edinb. Coll. one-*fourth*; and the Dublin Coll. perhaps about a *fifth*; for this is by no means an accurate prescription. As to the pills being divided, it is absurd and quite unnecessary; the formula adopted by the two former colleges, provided the conserve be made with proper sugar, will keep very long without changing and turning hard, as has been alleged.

The conjunction *et* and preposition *cum* are put in several instances, very ambiguously. In some formulæ they mean a chemical combination; in others a mere mixture, as if the ingredients had been mixed together in a mortar or with a spatula. Thus *pulvis ipecac. et opii, pilulæ aloës cum colocynthide*: these are mixtures in which no chemical change has taken place. But we have *sulphas potassæ cum sulphure,* where a perfect *chemical* combination has taken place, and will prove to be completely distinct from a mixture of sulphur and sulphate of pot-ash made by stirring the two ingredients together. By the way it is proper to add, that this title is not well adapted, for it will be found to be a *sulphite,* not sulphate of pot-ash; its solubility, the form of crystals, and other distinctive marks, will demonstrate that the sulphureous acid is chiefly combined with the pot-ash. This process is very ancient, though rather clumsy, if a perfect *sulphite* be required; nevertheless, if the medicine be useful, as I have reason to believe it is, it ought not to be discarded.

Oxidum antimonii cum phosphate calcis. Are we well assured that a mixture of these two substances form exactly what we expect, and is there no better or more explicit title for this powder? Would the *pulvis algarothi,* which I apprehend to be the most uniform oxyde of this metal, joined to phosphate of lime, produce the same medicament as the *pulv. antimonialis* Ph. Lond.? Till these questions be answered we had better remain contented with the *name* as well as the mode of preparing the *pulv. antimonialis.*

Why is *flavus* tacked to *sub-sulphas hydrargyri*? There is no other prescribed. Perhaps *hydrarg. flavus* would have been unobjectionable. Indeed the *sub* and *super* are very

very objectionable expletives, and, I humbly conceive, quite unnecessary in pharmaceutic names. We had better recur to old arbitrary names, some of which we still retain, such as *alcohol*, &c. &c. &c.

In a former paragraph I ought to have added, that as the Edinburgh College employ *opium* only in its *crude* state; and the London and Dublin Colleges have uniformly ordered opium *purified*, it will in all cases be requisite, in making comparative estimates of the relative strength of any formula, to recollect that the proportion in power is as 9 : 12.

Emplast. simplex contains one-fourth of its weight of *resin*, and the *emplast. resinosum* only one-sixth; it would have been more consonant to have named the first empl. *ceræ*, as in the Ph. Lond. and the latter empl. *adhæsivum;* for we may find many instances where the names are chosen more from the *quality* than the component ingredients of the mixture, such are *elect. aromat. pulv. aromat. trochis. gummosi*, &c. in Ph. Edinb.

Emplastrum oxidi plumbi semivitrei, when contrasted with *emplastrum lithargyri*, seems frightfully verbose. Surely the latter cannot be objectionable nor cause even a shadow of doubt. There is certainly too much play upon the word *oxidum* through the whole of the *Ph. Edinb. Cerussa* is distinguished as *oxidum plumbi albi*, whereas it chiefly consists of *carbonas* plumbi.

The word *impurum* stands frequently with an ill appearance, and very ungracefully. Why admit any thing *impure* when it is in our power to have it perfect. *Oxidum zinci impurum, carbonas zinci impurus*, and there might have been added some other *impura*, for, in the chemical department, they now and then occur. It has been lately shewn by an analysis, published I believe in the *Philos. Trans.* that there are many varieties of *calamine*; if so, why admit *carbonas zinci impurus?*

Sulphas zinci, as it now stands, must contain excess of acid enough to keep also iron in the solution, with which the zinc is constantly found united; and, as if the impurity should not be lost, there is an addition of acid in the subsequent formula, *solutio sulph. zinci, solutio acetitis zinci.* However carefully and accurately this may be prepared, an addition of acetate of barytes will demonstrate the presence of sulphuric acid. Sulphate of lead has been deemed soluble in particular circumstances, so it is mentioned in the *Philosoph. Journal.* In the above solution I suspect the sulphuric acid remains in the solution in composition

position with some of the zinc, so that this solution is *acetite of zinc*, some *sulphate* of *zinc*, and dilute acetous acid. As acetite of *zinc* is certainly an excellent topical remedy, the above formula should be corrected. Why not, at once, dissolve pure oxide of zinc in acetous acid, and either evaporate or add distilled water, according to the desire of the prescriber. In all our dispensatories, very little attention seems to have been bestowed on the *materica chirurgica*.

What is called *oxidum arsenici* in the list of *materia medica*, is certainly arsenious *acid*, as a solution of it in distilled water tinges litmus paper red.

Tinctura ferri muriati should never be made with *green* muriate, which must be the case if oxidum ferri *nigri* be employed.

Is there any sufficient reason for retaining both carbonas ferri and carbonas ferri *præcipitatum*?

Tartris antimonii is not, as the title imports, a combination of the metal with the *acid* of tartar; for Bergman has shewn that there must be some potash to form the *emetic tartar*, as it has been very properly termed by our predecessors.

Ammoniaretum cupri may, as a medicine, deserve its place in a Pharmacopœia, but not the appellation here bestowed upon it. Besides the *sulphate* of *ammonia*, which must remain in the mixture, there is also carbonic acid, either attached to the copper or ammonia, or, probably, to both.

If *sub* be properly added to *acetis cupri*, why is it not to *acetis plumbi*?

In giving names to the *formulæ*, I am inclined to suppose that the colleges either had in view, or might have availed themselves of, some uniform adherence to general principles in forming a Nomenclature, and, by using some words adjectively or substantively, thereby more explicitly denote what is meant. In general, the classes of *tincturæ*, *aquæ*, *syrupi*, *pilulæ*, *&c.* when the second substantive is in the *genitive case*, for the most part we may conclude that a *part* only of such article is in solution, though that is at the same time supposed to be the *virtue* or *essential* part. Thus, *tinct. cinchonæ, rhei, &c. infus. sennæ, gentian, &c.* only a *part* of the several ingredients is taken up by the menstruum; and this rule might be rendered general. On the contrary, it may be seen that this mode of particularising has not obtained even in such instances where it was very appropriate. We have in the same volume, *alcohol ammoniatum*,

ammoniatum, and *aqua ammoniæ, aqua potassæ, aqua calcis*; in all of these the whole of the article is in solution. Again, there is an *oleum ammoniatum*; now if we make it, as its title indicates, a parallel to *alcohol ammoniatum*, we shall discover a material difference; in the *alcohol* the whole of the ammonia is combined, but in the *oleum* there is superadded a quantity of water. Perhaps *potassa aquosa* would be more suitable, and calx aquosa, &c.; but these suggestions are not within my present aim.

I am, &c.

Long Acre, March 15, 1804. J. HUME.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

THE Bandage called the Bag Truss having been generally complained of, as inadequate to the purposes for which it is applied, I beg leave to present you with a Drawing of one of my own construction, which effectually suspends the scrotum, without being liable to displacement by the most violent exercise.

I am, &c.

St. Mary Axe,
Jan. 21, 1804. THOMAS LUXMOORE.

PLATE I. represents the Bandage.

AA. The arm holes.
B. A strap passing behind the shoulders.
CC. Two straps to tie it across the breast.
DD. Four straps, connecting the upper and lower part of the bandage; two behind and two before.
E. Passes round the body, above the hips, and is fastened with hooks before.
F. Straps beneath the thighs.
H. The bag itself.

PLATE II. The Bandage applied.

AN

Mr. Luxmore's Improved Bandage or Bag Truss. Vol. XI. p. 304

Plate 1

An Aneurism of the Aorta, *with cursory Remarks on various morbid Affections of the Heart; by* John Moodie, M. D. &c.

JOHN SMITH, aged thirty-four, of a healthy constitution, by trade a carpenter, serving with a detachment of the Royal Regiment of Artillery, in the East Indies.

On the 15th of November, 1783, he was sent into the Hospital at Mangalore, having a large aneurism of the aorta, apparently making its way though the sternum, and raising up part of the right pectoral muscle to the magnitude of a large fist.

The tumour was attended with a strong pulsation, and had been gradually increasing from its first appearance. About three years previous to this time, as appeared from the account given by the patient himself, he had received a kick from a horse on the left breast, to which may probably be ascribed the cause of the aneurism. And it doubtless increased more rapidly than it otherwise would have done by great exertion, and the pressure of heavy and hard bodies against the chest, to which his business subjected him; and seems to have accelerated the alarming symptoms which now threatened the life of the patient.

In order to lessen the momentum of the circulation, and prevent as much as possible the disorder from increasing, repeated bleeding, gentle laxatives, with a spare diet, was directed, and he was cautioned to refrain from the use of spirituous liquors, and every kind of bodily exertion, or mental agitation. But notwithstanding every attention which could be paid to his case, when the tumour was examined on the 30th, it was found that the skin of the apex was broke, so that a fatal hæmorrhage was hourly expected.

However, his appetite being good, his rest undisturbed, and in other respects healthy, though warned of the event, so far was he from a sense of danger, that he thought the Medical Gentlemen had mistaken his case, saying, "he believed he should cheat them all." In this situation he continued till the 4th of December, when the blood suddenly discharged itself from the tumour in a considerable quantity, and with great impetuosity, but the hæmorrhage was for the present restrained by the application of dry lint introduced pretty tight into the orifice, and retained by the gentle pressure of a bandage.

 Nevertheless,

Nevertheless, this alarming circumstance did not prevent him from eating freely of animal food at supper; about two hours afterwards, being perfectly easy, he went to bed. Here it may be supposed, that in a short time the impetus of the blood might be increased by the addition of new chyle, which in how small a degree soever, yet sufficient to overcome the resistance of the pressure made upon the part. Accordingly, in little more than half an hour, a quantity of concreted mass was forced from the orifice, and the blood gushed out in a full stream, when the patient suddenly turned upon his side, and instantly expired.

Upon opening the cavity of the thorax, the heart was found in its natural state, excepting some stoney concretions which appeared to have been recently formed. The lungs, though paler than usual, had no marks of disease; but on moving them aside, so as to bring the aorta into view, we observed that the cyst of the tumour was evidently formed by a dilatation of the aorta at its egress from the heart, but in a greater degree at its curvature, and from thence continued along the *aorta decendens* to the vertebræ of the back, where, all at once, it assumed the natural appearance. The carotid and subclavian arteries were a little ossified.

The aneurismal sac was ossified in several places, and by its continual pressure upon the vessels embracing the periosteum of the spine and sternum, had rendered both those parts carious, and entirely made its way through the latter. And it can hardly be imagined that the arterial coats were capable of a distension so great as to reach quite through the sternum to the surface. However I have reason to think, that the last mentioned circumstance was occasioned by the blood having gradually escaped from the artery, and by its force condensed the cellular membrane under the sternum, so as to form it into a cyst.

An aneurism, or a preternatural enlargement of the heart, or its cavities, is a disease of frequent occurrence. But although the subject is extremely interesting in the practice of medicine, it is seldom much remarked or well understood. Hence it is of the utmost importance to be able to distinguish an internal aneurism from various other affections which it so nearly resembles; for after attentively considering all the symptoms of this deplorable disorder, we must in general acknowledge our inability to discover any appearances sufficiently unequivocal for this purpose. Such

Such information therefore can only be derived from a comparison of a variety of facts illustrative of the subject.

While the force of the heart exceeds the resistance of the arteries, it continues of the same dimensions; but when the resistance of the latter, from becoming rigid and bony, exceeds the force of the heart, its cavities then enlarge. Hence practical anatomy furnishes us with many observations, shewing that the heart is thus frequently distended: and we find one in the Philosophical Transactions, where the left ventricle was observed to be three times larger than the right. Fernelius (in his Pathologia, lib. v. chap. 12) relates an uncommon case of this kind; where he says, that the frequent concussions of the heart were so violent and strong as not only to luxate, but even to break some of the adjoining ribs.

Marchettis, in his Anatomy, informs us, that he found a heart so large as to possess the whole thorax, and the ventricles of such a prodigious extent, especially the right, that a natural sized heart might be contained in it. Of the causes of this preternatural distension of its ventricles, one may be the air, which is not unfrequently found in the cavities of the heart, enlarging them immensely.

In a woman who died suddenly, Ruysch found the heart of vast magnitude, from the air with which it was distended, containing scarcely any blood, as appeared from inserting the point of a knife into it, the heart suddenly subsiding, as if a bladder full of air had been punctured.—Dissections convince us, that in the heart have been found inflammation, suppurations, erosions, concretions, and various other morbid affections, which may exist for a considerable time without any alarming symptoms. From the Academ. des Sciences, we have an instance of this kind, where, upon opening the body of the Duke of Brunswick, the heart was found eroded by ulcers, and the right ventricle appeared burst, from such an ulceration and erosion. To the above may be added the death of our late King. When the cavity of the thorax was opened and inspected by the serjeant surgeons, they found the right ventricle of the heart actually ruptured, and a considerable quantity of blood discharged through the aperture into the pericardium, so that he must have died instantaneously, in consequence of the effusion.

This appears the more remarkable, as it happened to a prince of a healthy constitution, unaccustomed to excess, and far advanced beyond that period of life when the

blood might be supposed to flow with a dangerous impetuosity.

Morand, in the Academ. des Sciences above-mentioned, relates a very uncommon case. When investigating the cause of sudden death in the body of a gentleman, there appeared, upon opening the pericardium, a large quantity of coagulated blood, and in the left ventricle a perforation, which was equal to eight lines in length, and the fleshy substance of the heart appeared so tender, that the probe made its way through in every part by the slightest pressure.

Upon examining the histories of this disease, we find, that aneurisms have generally arisen from blows, contusions, and other injuries about the chest, especially from overstretching the coats of the arteries by violent straining, or from erosion; instances of which may be seen in Lancisius. The celebrated Morgagni has also related some interesting cases of this disease; but more would be superfluous on the present subject.

When pointing externally, surgeons should be extremely careful in distinguishing this kind of tumour from others of a less dangerous nature; since it is known, that fatal instances have happened by opening them: an instance of which, I myself saw many years ago, where the patient expired a few hours after the operation. And since my residence in this city, I was consulted by a lady who had an external aneurism situated above the spine of the ilium, which appeared sufficiently capacious to contain upwards of three pints, and was doubtless filled with blood. Although I could not have supposed it possible that the nature of this tumour could have been mistaken by a medical man, nevertheless I was informed that a surgeon had proposed to open it.

I only advised bleeding, a low diet, and rest, with a compress wet in a solution of salt in water, applied to the part three times a day, and secured by the gentle pressure of a bandage. By means of the above, in a short time, the tumour entirely disappeared. That such tumour is an aneurism, may certainly be known from its being seated in a part where we know, from the anatomical structure of the body, that there is some large artery near, but especially when it has a manifest pulsation, also if the tumour be of the natural colour of the skin, diminishes by slight pressure, and returns again when that is removed:

But an aneurism of the internal parts of the body is inaccessible; all that can be done for the patient, is to prevent,

vent, as much as possible, the disorder from increasing by the treatment in the aforementioned case.

When the cause of a gangrene in the extremities of old people is occasioned by a debility of the functions of the heart, so as to be unable to propel the blood into the extremities, we may despair of any effectual relief.

From polypous concretions, whether formed in the heart or its larger vessels, arise many irregular and painful symptoms; and there is, unfortunately, no cure suggested by authors for this dreadful disorder.

Bath, Feb. 20, 1804.

On the EPIDEMIC DISTEMPERS *of the Year* 1802. *By* NATHANIEL POTTER, *M. D. of Baltimore. Communicated in a Letter dated January* 28, 1803.

MEASLES.

THE year 1802 constitutes a very interesting crisis in the history of American epidemics, more especially to those who view the Measles, Scarlatina, and Yellow Fever, as originating from one great general cause, and, consequently, as links of the same pestilential chain.

The winter 1801-2 was the dryest and warmest that can be remembered by the oldest inhabitants of our city. The mercury stood above the freezing point not only during the day, but through the night, much the greater part of the winter. The gutters, docks, and other repositories of filth, emitted an effluvium little less offensive than that which is exhaled during the summer and autumnal months. Whether the result of putrefaction contributed in any degree to modify the characters of our winter epidemics, I shall not pretend to decide; but state the most prominent symptoms and greatest variations that occurred to my own observation, and leave the learned to deduce such conclusions as they may think reasonable.

Agreeably to the report of some of our practitioners, the measles commenced their reign about the first of January; but the symptoms were not completely developed in any case that occurred to my observation until the 15th of that month. During the months of November and December, I had remarked the unusual frequency of an indistinct efflorescence, which was occasionally associated with every assemblage of symptoms which might have been occasion-

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ed by the vicissitudes of the weather. It appeared to me to be the evanescent shade of the scarlatina retiring before the majesty of a more terrible enemy. It is true that the scarlitina had not been epidemic, but decided cases had occurred sporadically, not only in November and December, but during all the last year. This efflorescence was associated with inflammations of the parotid glands, and of the tonsils, with inflammation of the lungs and pleura, and with symptoms of catarrh, intermittent fever, and dysentery, and with a variety of anomalies that have no name in nosology, until it was suffocated with them all by the arbitrary interposition of the epidemic measles. No sooner had this disease discovered its proper features than every other fled before it; and what the poet says of Fame, may be justly applied to this as well as to other great epidemics:

"Mobilitate viget viresque acquirit eundo."

So truly despotic were the causes producing measles, that even many of those who had suffered their influence in former epidemics were not entirely exempted. This miniature picture of the genuine disease appeared in several forms, viz. in catarrhal symptoms, in slight inflammations of the throat, in a sense of heaviness over the forehead, in a frequent watery discharge from the eyes, and, in a few cases, it was manifested by an eruption and a morbillous cough. These affections gave rise to an opinion that the system could be susceptible of measles more than once, and I shall say hereafter that this opinion was revived in spring, when the scarlatina arrogated the same dominion over the measles that the measles had done over the minor diseases of the winter. This second sensibility to the causes of measles seemed to be heightened by some inviting predisposition; but, above all, by previous diseases of the lungs. Adults were much more susceptible than children to this second impression; whence it would seem that the latter laboured under fewer predispositions, or that the former had partially lost the former morbillous impression. I did not see a person under ten years old affected with the slightest symptom, who had the disease when it was epidemic here six years ago. I saw no vestige of it in subjects above forty years old. Children were less violently affected by genuine measles than adults, but there were few grown persons who had not previously experienced them. This epidemic did not appear to me to merit the appellation of contagious in the same degree as small-pox; nor, indeed, in a very considerable degree. The causes seemed

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to me rather derived from the atmosphere than from a sick person; for many persons resided in families where the disease prevailed, and even slept with measly children with impunity. Should it be contended that measles are, strictly speaking, communicable from a sick to a well person, and should the opinion be well founded, is it not probable that some morbid or other strong impression had previously rendered such persons unsusceptible of impression from morbillous effluvia, just as the vaccine disqualifies the system for the reception of impression from variolous matter? There are, no doubt, many agents yet to be discovered that may act as eternal preventives of the most deleterious poisons. Will he not be entitled to immortality who shall, by such a discovery, obviate the effects of the saliva of a mad dog, or of the plague-engendering poison?

The symptoms of measles are so well known that I shall only notice such as do not constantly occur, or such as require attention in a therapeutic point of view. As in other epidemics, so in this, there were many cases so mild as not to require the interference of a physician: indeed, it was so light in some children that none but the physician discovered it. The head was more violently affected with pain and tension over the forehead than is common in the measles, although the swelling of the face was less considerable. The affection of the breast was the most important consideration, as the greatest danger was to be apprehended from effusions in the lungs: indeed, the organs of respiration, and parts adjacent, were affected in all the intermediate degrees between a slight cough and a most inflammatory fever. In some children the trachea and bronchial vessels where so highly excited as to occasion symptoms of croup. The affection of the stomach did not amount to that degree of puking which is so often mentioned by writers on measles; but a deadly sickness and a corroding sensation were constantly complained of. The affection of the stomach was less violent in adults than in children. The diarrhœa, so generally noticed in books, was seldom a symptom of this disease; never, that I know of, unless in consequence of neglected evacuations. The danger of the disease was in no wise in the ratio of the violence of the attack; for the cases that often proved most formidable manifested no turbulent symptoms until about the seventh day, when a sudden pulmonic affection often prostrated the system in a few hours. The ear-ach was often a symptom in children, as well during the inflammatory state as during convalescence. The eyes were some-

times

times highly inflamed, although ohpthalmia was oftener a consequence than a symptom of the disease.

The cure of the measles this year may be almost reduced to two simple remedies, *blood-letting* and *purging*; for when these were used in time, and carried to a sufficient extent, little or nothing remained to be done. These remedies were no less efficacious in removing the immediate symptoms than in preventing the consequences of the disease. This will be sufficiently apparent when we enumerate the deplorable train of consequences that followed their neglect. Such was the inflammatory grade of this disease, that a repetition of the use of the lancet was frequently required to the fourth or fifth time. As long as any symptom indicated the smallest relict of inflammation, the lancet was the most safe and efficacious remedy. The pulse required much attention, in some cases, to perceive the necessity of this remedy. Excessive inflammation or infarctions of the lungs, bronchia, or trachea, often obstructed the process of respiration in such a degree as to influence the pulse very materially. The skin was often cold, the cough laborious and unproductive, with all the symptoms of great indirect debility, with a pulse scarcely to be felt, and yet no remedy but venæsection could be depended on for relief; for the pulse rose after it, and free distinct action developed itself in all cases where the prostration had not continued a considerable time. This affection of the breast constituted the principal danger in this disease, but never produced death where the lancet was used early, and carried to a proper extent. Where the system had remained long in this semi-suffocated state, the lips and nails appeared blue, and a dark grumous blood was often expectorated. These were commonly the gloomy presages of approaching dissolution, unless the heart and arteries reacted after bleeding; which was generally the case when it was practised before the ninth day, and sometimes at a more advanced state of the disease. In this disease, as in all others where indirect debility is induced by excess of arterial action, bleeding, to be useful, should be practised with great caution. Large bleedings can never be used with propriety where this state has long existed, and the longer it has existed the less should be the quantity.

The blood drawn from a vein was uncommonly florid when drawn while arterial action was vigorous and the pulse frequent, but lost its floridity as soon as the functions of the lungs became impaired, or indirect debility supervened. In the different degrees of prostration it manifest-

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ed the following different appearances. 1. A copious deposition of a red precipitate to the bottom of the receiving vessel: this was deemed to be the first indication of a tendency to dissolution in the blood. 2. Blood of a darker complexion, separating imperfectly, with the serum bloody, and the crassamentum like blood half coagulated. 3. A total dissolution of the whole mass, appearing like molasses or tar, without a separation, and very black. Some have imagined that this tendency to dissolution is occasioned by the miasmata acting as the cause of the measles; but such an hypothesis seems improbable, as it occurs in pleurisy, and in many diseases of excessive, long-continued inflammatory action; though it must be confessed, that it occurs very often in such diseases as are called contagious. That the blood should be completely dissolved, and in a few hours after manifest a buffy coat, is almost an unanswerable argument against the solvent power of the miasma. This I have witnessed in measles, small-pox, pleurisy, yellow fever, and in other diseases. Does not this fact carry with it a strong presumption against the vitality of the blood? In the dissolved state it cannot be supposed to possess life, and it is equally difficult to suppose that it could recover its vitality in a few hours; nor is it probable that new blood could be so suddenly generated, when the chylopœtic functions are almost, if not altogether suspended. The blood was seldom sizy in this disease: the grade of the epidemic was so malignant that this appearance was seen only in mild cases.

Purging, though not as essential to the cure as blood-letting, was, nevertheless, a very useful remedy: calomel acted like a charm in removing the corroding nauseous sensation at the stomach. It was more grateful to that organ than any other purge, and required to be repeated every second day, or oftner, as there was a constant re-accumulation of that green acrid matter that was sometimes ejected from the stomach on the first attack; and this disposition commonly lasted four or five days. Where purging was neglected in the commencement, the evacuations from the intestines were often of a dark green, brown, or black complexion, just as it happens in other malignant fevers.

Emetics were sometimes useful in removing excreted mucus from the bronchia and trachea, though they could not be used with propriety in the early or inflammatory state, because they increased the inflammatory action, and particularly the determination to the head. They often afforded a temporary relief of the nausea at the expence of increasing

creasing the fever. They proved more useful in the advanced state of the measles, when indirect debility began to progress, provided no decided local affection forbade them.

Antimonials were certainly improper medicines in this disease, they depressed the pulse, and seemed to act too much like the causes of the disease. Are not antimonials equally unfit remedies in all malignant fevers where the tendency to indirect debility is great, and more especially in those called contagious, where the *vis nocens* is so prone to induce the same state of the system?

Blisters were equally inapplicable in the first state of this disease, but co-operate powerfully with emetics in arresting the progress of indirect debility in the advanced state of measles, and sometimes called forth dormant excitement to great advantage.

Opium was equally inadmissible in all its forms, unless towards the latter state, when fever did not contra-indicate its prescription for the cough, which was often the last troublesome symptom, and seemingly occasioned by the action of a small portion of the pulmonary vessels.

Although measles generally run their course, in all cases, nearly in the same number of days, they manifested a trait discoverable in all malignant fevers; viz. a disposition to terminate in a shorter space immediately before they disappeared. This signal for the cessation of hostilities is very remarkable in scarlatina, yellow fever, dysentery, jail-fever, and others. The action of the morbillous fever produced one effect which I never saw from any other morbid action: it increased all the symptoms of gonorrhœa, and fomented that local action to a degree unknown to me. It was moreover evident, that, from the commencement of the measles to the termination of our autumnal epidemic, that disease not only resisted the common remedies, but yielded, in many cases, only to all the force of the whole train of antiphlogistic remedies. The difficulties attending the treatment of this disease, formed, during that period, a subject of astonishment and complaint for the practitioners of our city.

I should not have been thus particular in detailing the phenomena of measles, were it not that the popular opinion supposes them to be void of danger, and, therefore, seldom requiring the interference of a physician. A more hazardous notion cannot exist; for the neglect of no disease originates more deplorable consequences, even where the patient recovers. It therefore appears to me that this

constitutes

constitutes the most important part of the subject. I shall enumerate some of the most common consequences of neglected or maltreated measles; although the limits of a letter must abridge the list considerably.

1. Effusions in the lungs. 2. Effusions in the brain, constituting what are called cases of hydrocephalus internus: these soon produce death. 3. Debility of the lungs, inviting disease by constant predisposition. 4. Cough, often terminating in consumption, as well as the state immediately preceding. 5. Slow convalescence by the tedious process of expectoration. 6. Inflammations of the eyes were common; the palpebræ were highly inflamed both during the disease and long after its decline, and the cornea was often so completely covered with an excrescence as to obstruct vision partially or entirely; this was both a symptom and consequence of measles. This last symptom occurred principally among children, and began about the second or third day. 7. As ear-ach was often a symptom, so internal ulceration was a consequence of measles; and these frequently proved very difficult to cure. These occurred mostly in patients under puberty; and I met with several cases that resisted all the ordinary remedies, and yielded only to a salivation. Some were cured by injecting weak solutions of corrosive sublimate into the ulcerated ears. 8. Eruptions on the skin, comprehending several anomalies, but consisting more frequently of a thickening of the cuticle, similar to the affection of the cornea, which may be justly viewed as the scarf-skin of the organ of vision.—These probably make no figure as to the whole of the evils resulting from neglected or ill treated measles; but they are sufficient to deter all reasonable men from trusting to the wild aberrations of nature in the cure of so dangerous a disease; and it is certainly a very consolatory reflection, that none of them followed measles where *bleeding* and *purging* were judiciously used.

Before I relinquish this subject, I must be permitted to describe one case of measles; to omit it would be to lose a pathological curiosity, the parallel to which (so far as I know) is not to be found in the annals of medicine.

On the 15th of February I visited Ann Watson, aged eleven years, who had been attacked with the usual symptoms of measles five days before. She had been a healthy child from her infancy; and the immediate cause of calling for medical assistance was an affection of the throat unusually violent for this disease. Excepting this symptom, nothing uncommon was discovered until the eighth

 day,

day, when a coarse furfuraceous scale was discovered on each point where the eruption had originally appeared; from these this thickening of the cuticle diverged, and in three days it enveloped the whole surface of the body in one universal scale. This induration of the cuticle increased daily, and, by the fifteenth, it had acquired the hardness and thickness of the nails, and apparently in no respect different from them. This scale was not confined entirely to the external surface of the skin; it was perceptible (though in a smaller degree) on the insides of the ears, nose and mouth, and as far down the œsophagus as could be seen. Previous to the eruption, as soon as the cough began to agitate the lungs, an unusual degree of redness instantaneously diffused itself over the face; not like the hectic blush (so common in inflammatory affections of the lungs,) confined to the checks, but extending over all the face. So violent was the influence of the lungs upon the skin, that this scarlet efflorescence, in some long paroxysms of coughing, extended over the whole body. The hair was materially interested in this symptom. The same substance was generated, in great abundance, from its roots, and seemed to be occasioned by a superfluous secretion of the substance forming the hair. Every hair acquired, at its root, the thickness of many hairs, and a whiteness, strongly resembling the *Plica Polonica**, as described in books. Such was the thickness and hardness of this horny excrescence, that scales of it were frequently pared off without the least sensation. For some days before death, the least motion of the body produced extreme pain; and, when she walked, a sound was emitted from the body as if she had been cloathed in buckram. On the twelfth day she became considerably blind and deaf. The cornea thickened until it put on the appearance of having been burnt, and total loss of vision ensued. The deafness did not progress in the same ratio, as the hearing continued, in a small degree, as long as she lived. The sense of smelling was also considerably impaired. The sense of tasting was entirely lost. Sugar and salt, and even brandy and milk, had the like effect on the tongue and fauces. The understanding was not impaired, nor the least symptom of derangement discoverable through the whole disease. From the commencement

* Is this disease, so common in Poland, an increased secretion and deposition of the same nature?

mencement of the induration of the cuticle, the symptoms became more and more aggravated. The cough was frequent, hard, and unproductive, but little pain was felt in any part of the thorax, and no expectoration appeared to the last. The greatest pain was experienced in exercising the muscles of deglutition, and the thought of attempting it frequently occasioned the most violent convulsions, in one of which she expired while attempting to drink, on the nineteenth day from the attack. Every idea, however remotely connected with the act of swallowing, occasioned the greatest trepidation of mind, and agitation of the whole nervous system; in short, these symptoms recalled to my mind all the horrible scenes of a most deplorable case of hydrophobia which I witnessed at eleven years of age. No pain of the head was complained of from the beginning. The most excruciating pains through the whole alimentary canal were felt, though not constantly. On my first visit she was bled, and a temporary relief from the cough was obtained. The blood was uncommonly sizy. Every attempt to evacuate the intestines completely proved abortive, although the attempt was made daily, for fifteen days, with the most powerful cathartics. The warm bath was resorted to in the violence of pain; but the relief produced by immersion, however long continued, was scarcely perceptible. Opium, for the four or five first days, produced a temporary relief, but at length it effected nothing more than the same quantity of water. With a view of relaxing the rigid cuticle, the body was covered with warm olive oil, with the longest respite from pain that she experienced; and large doses internally, afforded considerable alleviation of the tormina of the intestines. I regret that I was not permitted to examine, by dissection, the viscera and other internal parts, and must, therefore, leave the subject for the contemplation of the learned.

MISCELLANEOUS REMARKS ON THE SMALL-POX AND KINE-POCK. *Communicated to* DR. MITCHILL *by* DR. MOSES YOUNGLOVE, *in a Letter dated New Lebanon Springs, February* 12, 1803.

CONSIDERING the hopeful progress of vaccination, any communication and discussion relative to the *small-pox* may, to some, seem unseasonable; yet, notwithstanding the flattering

flattering prospect that the former will generally supersede the latter, as to the practice of inoculation, in all lettered States, at a time not very far distant, the prevalence of the latter, for reasons well known, is still considerable; and since, through its very infectious nature, and the great intercourse by commerce, this may, for a time, remain the case; and since investigations on any disease are more or less favourable to the study of every kindred disease, I take the freedom of offering to your inspection a few desultory remarks, with reference to what hath appeared in several publications relative to the small-pox.

A question is controverted by pathologists, whether two or more contagious diseases can operate at once on the same subject. It appears by the last number of the Medical Repository, that Dr. J. R. Coxe, in his late treatise on vaccination, which I regret that I have not seen, advocates the affirmative of this question; while Mr. J. Hunter, Dr. E. Darwin, and several others, maintain the contrary; and some of them make of that opinion a theoremic basis to very important deductions. From long and diligent observation, I am fully confirmed in Dr. Coxe's opinion in the premises. Many instances have occurred of my patients having, at the same time, the small-pox and measles, the small-pox and chicken-pox, the small-pox and the venereal disease, the small-pox and the mumps, and the small-pox and hooping-cough; and, as far as I could see, both diseases, in each case, proceeded in their usual progress, without any suspension of the operation of the one by the other, as several writers have supposed. Nor did the two diseases, that I know of, coalesce, and form a third intermediate *something of a disease*, as Dr. Darwin ludicrously supposes, (Zoon. §. 33. 2, 9) though they, in several cases, appeared to be in even progress; and in one instance, about the year 1785, I had a patient, when the measles were prevalent, who, about the thirteenth day after inoculation, and after pretty severe symptoms, broke out with the small-pox and measles both at once; but the latter appeared entirely apart, in blotches of an inch or two diameter; after which both happily proceeded in their natural operation.

As to the opinion espoused by Dr. Coxe, and other reputable authors, that some persons have had the small-pox more than once, as I have no proof to the contrary, so neither have I, in my practice, seen any evidence in favour of it. I once, through mistake, inoculated a family with infection of the chicken-pox instead of the small-pox, when

when the operation produced, though slight, yet did not undeceive me (I being then young in the practice), till the person out of whom I had taken the infection, happened, under my eye, about a year after, to break out with the natural small-pox, which admonished me to inoculate them anew with the true infection; but had it not been for this seasonable discovery, these patients might, many years after, have had the small-pox by the natural way, and I might have confidently asserted that they had the disease a second time.

I have also known several instances in which practitioners of little experience have inoculated for the small-pox, with matter adulterated with the itch, or the like, which producing a sore, and a kind of eruption, were pronounced safely through the intended disease, yet have afterwards caught it, and then been said, as confidently, to have it a second time.

It is also asserted, by some writers, that there are, in every country, some to whom the small-pox cannot be given by inoculation, although they have never had it before trial; but in the course of my experience during the revolutionary war of these States, and since, on, I believe, not less than thirteen or fourteen thousand subjects, I have found none such when my infection was good; though I know several persons who, having had the disease very slightly, are generally thought to be of that description.

Nor have I ever, but once, seen the operation of the spurious or imperfect small-pox mentioned by Dr. Coxe sometimes to occur, which was about thirteen years since, when I began inoculation, between Kinderhook and Claverack, with old infection, procured from a neighbouring physician; but very singular was its operation; its taking effect was generally uncertain without repeated inoculations; its whole subsequent operation was mostly so slight, and often partial too, producing only a scabby eruption on the inoculated arm, that my utmost efforts could not, in every instance, produce an operation fully satisfactory, though a very few had the disease severely, with a natural appearance enough. This continuing the case for several weeks, while I could procure no other infection, but inoculated every succeeding class and family with the best I could select from the preceding, I was constrained, merely on that account, to desist, though reluctantly, after having inoculated nearly two hundred.

There is a query (Med. Rep. vol. i. p. 103) whether, in inoculation with the small-pox, the insertion of an unnecessary

cessary quantity of the matter will increase the virulence of the disease? To this I answer, that though I have never plainly perceived any injury from this source on strong subjects, yet on tender infants, and weak patients in general, I have thought the insertion of much, especially by deep incision, and more especially if repeated in several places, to be very injurious, apparently through the unnecessary corrosion of the skin, cellular membrane, and even muscular flesh, and the consequent fever, depression, and the early and unnatural absorption of the matter into the mouths of the lymphatics.

As to the advantage there mentioned from a dilution of the virus before ingrafting, I am fully of opinion that it does in no case tend to the proposed mitigation of the disease, but that it is highly improper, rendering the communication of the disease far less certain, if a mixture of water, or any other extraneous matter, be unnecessarily admitted. And hence the reason is evident why the first limpid matter in the pustules is so very sure to communicate the disease by inoculation; this young matter being naturally the most pure from any mixture of common pus, or other foreign material.

Dr. Darwin queries (Zoon. § 33. 3, 1), whether the infection of the small-pox can be effectually cut out again after inoculation. I can partly answer this, by stating that, about fifteen years since, on the alarming illness of one of my patients (at Lunenburg, near the city of Hudson), with the appearance of an incipient yellow fever, on the third day after an inoculation which had undoubtedly taken effect, I freed him from it by cutting out a piece of skin less than a dime; but that I have since failed in a similar attempt, the fourth day after inoculation, in a manner, however, indicating, that if my incision had been made wider and deeper it might have succeeded: for about the ninth day after inoculation, as in other cases, the sore was surrounded with the true pock inflammation, and the eruptive progress following was as usual.

Dr. Darwin (Zoon. § 33. 2, 10) acknowledges his recent conviction, that the variolous matter never circulates in the blood of any person infected with it, as evinced by several experiments of inoculating with the blood without effect. Yet, notwithstanding this rational conviction of him and others, the position is controverted, and, as far as I am acquainted, generally discredited. As for myself, I was more than twenty years ago conviced of its truth, and have since been more and more confirmed in this convic-

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tion, by having observed the following among other evidences of it.

1. Generally about five or six days from the inoculation all its observable operation is confined to the infected spot, or very near it; for a few days longer its progress from that is mostly slow and gradual; and then it first affects the glands and muscles on the same side, about the shoulder, neck, and head.

2. The following progress of the eruptive symptoms is very similar to that of various other potent irritations.

3. I have inoculated, I believe, much more than a hundred women, in the early and middle stages of pregnancy, with safety in most cases; and have frequently, long afterward, inoculated the children so born of them, who have invariably undergone the usual operation of the disease, which might not have been the case had the variolous matter pervaded them in utero.

Nor hath the argument any weight with me, when some former writers urge the infectious nature of the pustules emanating from the blood, as a proof of the presence of variolous matter in that fluid; for I have diligently sought, in vain, for any evidence of infection in the incipient pustules before maturation; and they never maturate but where they are exposed to the air; a portion of which may, perhaps, for that end, form a chemical union with some of the secretions of the patient, essential to their contagious maturity; and hence, in abortions from this disease, in the last stage of gestation, the pimples frequently observable on the fœtus have none of the variolous matter in them.

4. I have never known any person take the small-pox from the blood, though exposed to it, fresh drawn, at the most likely season, aftor the absorption into the lymphatics of a profuse and crystalline eruption, which is sometimes astonishing, both as to the quantity of matter receding from sight, and the quickness of its recession: insomuch, that I have once seen an instance where the bladdery cap of a large, full, remaining cyrstalline pock, was hastily pulled off, with a view, by applying a sponge, to hinder the retreat of its contents into the system, when it instantly ran in under my eye, before the sponge could be properly applied, and that too on the under-side of the patient's leg, in opposition to centripetal attraction. Yet, in some of these cases, when induced by improper treatment, on a seasonable resort to a warm and cordial regimen, and to the proper internal remedy, one may the next

day see the happy return of the matter in large blisters, at or very near the pustules it before filled (though now so far divested of its late keen contagious virulence as to be very uncertain to inoculate with). It therefore appears to me probable, that its retrogression was only into the mouths of the lymphatics, which naturally inflames them, indurates their glands, and induces dangerous fevers, by the associate and sympathetic motions of the different parts of the system.

The writings of some transatlantic authors, formerly of credit, would induce a belief that it was once thought there, that the small-pox was not only modified in operation by particular sites and seasons of the year, but was frequently originated by these causes. These notions appear as the mere reveries of inexperience and error: but many descriptions of the disease, its operation and proper management, by writers of the best credit, such as Huxham's little black pock, which never was seen here in our day, &c. and many observations by Sydenham and others, his cotemporaries, equally variant from our experience, may perhaps be credited as then correct, by supposing a general change in the operation of the disease, gradually down the lapse of time from them to us; which is to me the more probable, because I think I can distinctly trace, by memory, a transition of this kind since I began to practice in the disease, which is about twenty-eight years. I see no more of the glandular suppurations in the latter part of the disorder, formerly so frequent and unavoidable. I can say almost the same of the rash, an eruption so common formerly at the close of the eruptive illness. Also the scarlet, or sometimes crimson efflorescence, well described by the acute Dr. Brown (Elem. Med. p. 219 and 421); also a border of like appearance round the inoculated spot on tender infants, near the time of eruption, varying in different shades of delicate colours to the eye, in transient and momentary flushes. The two last I have not seen these ten or twelve years, though formerly of pretty frequent occurrence in my practice. And, in general, I think it evident that the small-pox here hath grown far more mild and manageable than formerly under similar treatment.

VACCI-

VACCINATION.

CITIZEN L. A. MONGENOT, Physician to the Hospital des Enfans Malades, at Paris, has lately published a Treatise on Vaccination, in which he has considered that interesting part of medicine in a point of view entirely new, by attempting to establish the theory of a truth now generally admitted. The existence of a fact may be sufficient for the vulgar, but a physical conviction will not be satisfactory to minds accustomed to develope causes; the man of science, as Citizen Mongenot judiciously remarks, wishes to obtain a moral conviction, which may submit the phenomena with which his senses are struck, to his understanding; it is not enough for him to see, he must comprehend. The author, therefore, makes it his business, not so much to ascertain a list of facts, as to concatenate a series of arguments — less to give calculations, than to furnish proofs; of course, he leaves to the Central Committee of Vaccination, of which he is a member, the care of ascertaining the credit due or not due to the enormous mass of facts of which it is the depositary. Faithful to the plan he has traced out, Cit. Mongenot begins by comparing the natural small-pox with the new specific. This parallel, established from day to day, and made with extreme precision, proves that vaccination proceeds in the same track as the small-pox, until the period when this latter occasions the general eruption; but as the general eruption, and the phenomena which accompany or follow it, do not constitute the essence of the small-pox; as it is only a series of symptoms which compromises the life of the subject infected with the variolous matter, without adding any thing to its future preservation from the same malady, it follows that vaccination and the small-pox exhibit a perfect analogy, as from the moment when they become dissimilar in their progress, this last has furnished its necessary period. Further, that it often stops of itself at this point, or, if it continues its further appearance, it is only to incur dangers more or less imminent, without offering any compensation in respect of future preservation. Here two questions suggest themselves: 1. Is it actually true that the general eruption and the maturatory fever do not constitute the preservative faculty of the natural or inoculated pock? When an assertion of this kind is confirmed by the testimonies in writing of Boerhaave, Van Swieten, Sydenham, Stoll, Rosen, Derosenstein, Huxham, La Condamine,

mine, and of all inoculators, even those who are hostile to inoculation, we may undoubtedly consider it as incontestible. We know besides, that inoculation has been considered as a benefit, only because it diminshes in general the pustular eruption, the only cause of danger, and pretty often secures from the secondary fever and from suppuration, the pustules only appearing in very small numbers. In fact, the symptoms which pertain to the resorption of the puriform matter of the pustules shew the existence of two effects essentially distinct in the small-pox; the first owing to the immediate action of the virus on the animal œconomy, and the second depending entirely on the inflammation and the suppuration of the pustules; but it is evident that the persons who have had the variolous fever without eruptions, have been always protected from the small-pox; it is manifest, therefore, that the eruption contributes nothing to ensure preservation. The second question, *As it is proved* that the general eruption and the maturatory fever, do not constitute the preservative faculty, are they not merely a series of symptoms, the sole property of which is to compromise the life of the inoculated person? This second question is so closely connected with the former, that it is unnecessary to pursue it through its different ramifications. All the danger of the small-pox consisting in the critical eruption of the pustules, it was natural to seek to prevent, or at least to diminish it. Inoculation, in part, effected this end; but it was not a specific, for it entertained the focus of the malady, and perpetuated the contagious principle of it; it even sometimes developed a small, confluent pock, frequently mortal: the celebrated inoculator Gandoger had fatal experience of it on his own son. The true specific against the small-pox can only be that, which, by a virtue *sui generis*, was to destroy it compleatly. The great Boerhaave had a presentiment that one day we should be happy enough to find it. *Quale inveniri posse, comparatio antidotorum et indoles hujus mali, faciunt sperare.* i. e. "*The possibility of such a dicovery is founded on the comparison of antidotes, and the character of the malady.*" Van Swieten expresses himself in a manner still more positive. "*Ex ante dictis constitit stimulum illum admodum exiguæ molis esse et tamen stupendas mutationes corpori humano, etiam sanissimo inducere, adeoq; sperari potest simile et remedium posse inveniri quod forte talis efficaciæ sit ut minima quoque ejus pars sufficiet enervando huic veneno. Ita forte invenietur aliquid quod venenum specificâ vi domare, sicque morbum in ipsis incunabulis*

suffocare

suffocare valeat." Van. Sw. Variolæ, p. 54. i. e. *It ha therefore been proved that the mass of the contagious stimulus, in the smal -pox, is extremely small, and that, nevertheless, it can produce, even on the soundest body, stupendous alterations. There is, therefore, reason to hope for the discovery of a remedy perhaps so efficacious, that it will be necessary to employ only a very feeble dose to enervate this virus.. In like manner it is possible to find a specific powerful enough to triumph over the small-pox, by stifling it as it were in the cradle.* We may further quote this passage of La Condamine: " Neither the eruption, nor the pustules, are essential to the natural or to the artificial small-pox; and perhaps a day will come that shall realise what Boerhaave and Lobb attempted; that is to say, to change the *exterior form* of this malady, without augmenting the danger. *Premier Memoire*, p. 90, &c. This specific, announced by Boerhaave, Lobb, Van Swieten, and so many others, is the cow-pock.

1. Because it exactly fulfils all the conditions required by those who have predicted it.

2. Because it is a preservative from the variolous or small-pock.

3. Because it prevents contagion, and is not contagious of itself.

4. Because it only produces a very slight malady.

5. Because its progress is identical to that of the inoculated small-pock.

And, 6. Because it does not occasion a general eruption equally terrible and useless.

Cit. Mongenot concludes by annexing an interesting list of cases of vaccination that have occurred within the sphere of his owh practice. In this part he throws out a challenge to detractors, antagonists, &c. that it will never be possible to infect the *preserved* subject with the variolic virus. He began his experiments upon his own son, the only one of his vaccinated patients that he submitted to the counter-experiment, by causing him to be inoculated with the small-pock. " It was useless," adds the author, " to repeat this fine experiment upon others; but I owed it to fathers of families to afford them such a guarantee as a father only could give."

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

ABOUT two months ago a celebrated Professor* at one of our medical schools, announced an important discovery, which I have since been anxiously waiting to see communicated to the public; but as the knowledge of it appears either very confined, or men of science very tardy in forwarding its best interests, I shall, with your permission, state it as concisely as I can. He observed; that a learned Orientalist had in his possession an Arabic manuscript, which traces the origin of the small-pox to the same source from which Dr. Jenner has satisfactorily demonstrated the vaccine disease to proceed.

The Arabians have, in all ages, been famed for their horses and camels, and the milk of the latter constitutes a part of their subsistence. Thus the virus from the diseased heel of the horse is transferred to the papillæ of the camel, in the same manner as it is to those of the cow; and the camel-pox is produced, the poison of which, insinuating itself by some slight wound into the human system, the small-pox, with all its attendant horrors, is the consequence.

Should this fact be authenticated, it will attract the attention of naturalists to the hitherto inexplicable causes of contagious diseases; and many that have eluded the scrutinizing eye of sagacity for ages, will probably be devoloped and brought to light; analogies will be discovered of which we have now no idea; and antidotes that may perhaps arrest the progress of some of the most dreadful scourges of humanity.

If any of your readers are acquainted with any further particulars relative to this very interesting subject, they would certainly promote the cause of science by communicating them to the public through the medium of the Medical Journal. Those to whom it may be no novelty can perhaps inform us to whom the manuscript belongs, and whether (as was intimated) a translation of it is preparing for the press.

I am, &c.

B. S. Feb. 2, 1804. STUDIOSUS.

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* Mr. Abernethy.

To

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

THE several methods employed by surgeons for the opening of an abscess are three: 1. Seton. 2. Caustic. 3. Incision; each of which has its advantages and disadvantages, well-known to every practitioner in surgery, but unnecessary here to be enumerated. I mean to add to these a *fourth*, which, as far as I know, has not yet been brought into general use. This is no other than the common cupping-glass, exhausted of air in the usual manner, and applied over the abscess, at the time thought proper for its operation. By this contrivance the whole contents of an abscess, however considerable, may be very speedily evacuated, and the first discharge is made with a very considerable force, similar to an explosion. Of the safety of the practice no one will I think doubt; and of its utility I can speak from experience. But, it may be asked, why multiply means when those already known are amply sufficient? To this question I should reply, that, as the opening of an abscess by the cupping-glass is momentary, it is much less painful than the caustic; and, in timid persons, we are sometimes prevented from adopting either the seton or incision, from their dread of every thing that relates to the knife.

The selection of proper cases for the application of it I leave to the judgment of the surgeon himself, only further suggesting, that, besides the superseding of the lancet in many instances, it may be had recourse to advantageously for extracting the slough, or deposition of coagulable lymph, in the furunculus or bile, by the detension of which the pain of that disease is protracted, and the cure often long retarded. I once knew a country bone-setter who was famous for sucking tumours of this description; but it is obvious that he would have lost all his business in that line had this method occurred to the practitioners in his neighbourhood, as it would have been quite as effectual as his in extracting the core, without giving any offence to delicacy. To save the patient however from unnecessary pain, it may be proper to add one caution, which is, not to exhaust the glass of air more than is necessary to rupture the integuments; and as every square inch of an exhausted receiver is deprived of an external compressing force, equivalent to almost fifteen pounds avoirdupois, a

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proportionable degree of force may be calculated to exert itself from within, in bursting the external covering of the abscess. And any force beyond this would not only aggravate the pain of the operation, but might occasion a greater flux of blood from the ruptured vessels of the part, than, under circumstances of extreme debility, it might be prudent to produce.

From analogy too I have also used the cupping-glass after the application of leeches; and where it is desirable to make the discharge by them suddenly, or in a greater quantity than from the paucity of leeches could be expected to flow, it will be found a valuable expedient.

Manchester, Jan. 6, 1804. EDWARD HARDMAN.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

I Have neither leisure nor inclination for Controversy, though I now find myself necessitated to answer Mr. Foge's letter, Vol. xi. p. 64.

From the many year's practice of Mr. F. and the particular turn of his arguments, it is pretty manifest he is a disciple of Chapman, who published a book in 1733, or thereabouts, for the use of *women midwives.* Chapman's practice was, immediately on the birth of the child to pass his hand into the uterus and deliver the placenta; he says, "I never suffer the womb to close before it is relieved of its contents, for the moment the child is born, I slip my right hand into the womb (at which time the parts, on account of their great dilatation will allow of it without force or pain) and gently assist in the extraction of the placenta."

Mr. F. is much puzzled as to the utility of the left hand to the sacrum; the woman being laid on her left side, the accoucheur, when he presses on the abdomen with the right hand, by putting the left hand on the sacrum, places the uterus in a state between pressure and resistance; the left hand too allows the practitioner to judge better of the necessary degree of pressure, and enables him the more steadily to apply it, for he is "never to lose the pressure he has gradually arrived to;" at any rate the left hand must be somewhere, and Mr. F. has not made any soreness

of

of the sacrum as an objection to its being placed there. Mr. F. in saying that gradually increasing a slight pressure means more than a slight pressure, is certainly true, but I believe my meaning is intelligible to your readers.

If Mr. F. had coolly and deliberately perused my paper, and not considered it as an attack on Chapman and his practice of passing the hand into the uterus, he would have found that I spoke of pressure "being otherwise of good effect," not confining it to the deliverance of the placenta; the other "advantages" of pressure then not being objected to by Mr. F. the practice remains admitted, and I repeat, that considerable pressure on the parieties of the abdomen is of good effect in every case of labour, independent of the delivery of the placenta, and that at the time I have mentioned; as to the soreness of the abdomen being an hinderance, it merely amounts to this, when the child is born the woman thinks she has sufficiently suffered, and that the heavenly moment should not be interrupted; but tell her the pressure on the abdomen is necessary, that the success of an expeditious recovery much depends on this circumstance, she will, considering it as a part of labour, neither murmur nor complain, though the soreness was to the extent depicted by Mr. F. I believe the passing the hand into the uterus would not be so readily reconciled, and the indelicacy of the practice would more than counterbalance the suffering from pressure on the sore abdomen, as represented by Mr. F.; but passing the hand is not exempt from pain on account of the irritable soreness of the parts. It would seem that there was some danger attending Mr. F's supposed soreness of the abdomen, in his saying "too often;" but it will appear rather curious that no author or lecturer, recommending pressure, should mention soreness as an objection to its use, and that Mr. F. of whose practice it has never formed a part, should make the discovery.

The next paragraph exhibits Mr. F. making free with Dr. Denman, to give the practice I recommend a fatal blow, for the way I apply pressure never causes the mischief he supposes; "he is very well assured, he says, if the knuckles, &c." He has very artfully indeed blended the "supposed" knuckles and my mode of pressure, to prove that my hand does the injury which he has represented, and then exultingly pronounces the passing of the hand to be a preferable practice. I will not dispute Mr. F's adroitness in passing the hand, nor his great success, but he seems to be aware of hazard, and tells of his lucky escapes;

escapes; and it is remarkable that he should adopt nearly the same language as Chapman, to express his good fortune. Chapman says, "Nor are the examples of many women doing very well under the management of such midwives as never do pass the hand, any objection to this method, since no one was ever hurt by it, but thousands on the contrary, have suffered, nay died, by the omission thereof."

The pressure I recommend is not stated to retard the deliverance of the placenta, on the contrary must promote it; but Mr. F. insinuates that the pressure I recommend is tantamount to leaving it to the action of the uterus. I have no where said I would not pass the hand; and rather than let my patient be endangered, I would try all means in my power, but I would put off the practice till I was convinced pressure would not answer. Mr. F. has allowed that the hand may be easily passed any time, within twenty-four hours.

The forceps are very useful; but great as my address might be in the management of them, I would not officiously employ them.

Chapman observes, that "one clod being expelled, the vessels will sometimes bleed anew," which I am surprized Mr. F. has overlooked. I present it to your young readers to caution them, when called to a case as described by Mr. F. where the hæmorrhage has ceased before his arrival, and there is a return of faintings. They must not be too hasty in ascribing the faintings to existing hæmorrhage, and immediately apply pressure, for this pressure would remove the extravasated blood that had perhaps stopped the hæmorrhage; and however proper pressure might be in flooding, it would be very impolitic to hazard a hæmorrhage by it.

Mr. Foge says, he has been called to several cases where the midwife had so far neglected the woman, as to omit pressure, and leaving the atonic uterus to be filled with blood and the placenta to be excluded by the action of the uterus. Here Mr. F. has betrayed himself, and much as he has opposed pressure, it appears to "form a part of his practice;" he seems aware that it would prevent the existing hæmorrhage, and thus supersede the necessity of passing the hand to extract the placenta. In short, Mr. F. has afterwards declared that pressure is the only thing to be depended upon in all cases of flooding, not excepting the manual extraction of the placenta.

I am ready to grant the uncertainty of the expulsion after

after being detained two hours, and I will add before that time shall have expired; but in admitting this, it does not convince me that in every case of labour after the child is born I should directly pass my hand into the uterus, which Mr. F's reasoning implies.

I have already mentioned the indelicacy of passing the hand, and I believe it would be attended with danger as well as difficulty, to a person so ignorant as to invert the uterus by pulling the funis; we have much more to dread from the same want of skill in passing the hand into the uterus; the inversion of the uterus is what rarely happens, but numerous are the mischiefs recorded of the passing the hand, and hurrying away the placenta. Smellie has several cases, Hunter, Denman, Lowder, &c. all have mentioned them in their Lectures.

Mr. F. has intimated, that pressure will "separate the placenta from the uterus;" it is fair then to conclude that it would urge it also through the contraction, having no resistance from the loose parietes of the abdomen or the atonic fundus uteri.

It is rather singular that Mr. F. should cite Dr. Denman's authority, to prove that pressure is seldom or never requisite, after condemning his practice as bad.

There seems much to admire in the wariness of Mr. Barlow; but, as he is so well able to answer for himself, I shall wave saying any thing on Mr. F's disapprobation of his practice, further than making a single observation. Mr. F. says, "I am one of those who can see no safety in allowing the placenta to remain four hours under the forementioned circumstances, I mean, an existing though not an apparent hæmorrhage, attended with great weakness and fainting." In an apparent hæmorrhage he would let the placenta remain four hours, but he has neglected to assign a reason for so doing.

I cannot help thinking Mr. F. culpable in secluding from the world his practice of pressure in uterine hæmorrhage; and as we are by no means certain that he will make it public, I will venture to suppose what he means: The pressure he proposes is, in all probability, by means of ligatures about the extremities, which is practised by some; and with this conjecture I shall close the subject.

I am, &c.

Worksop, Feb. 17, 1804. W. MARSON.

ON

On the Bite of a Snake cured by Volatile Alkali.

By David Ramsay, M. D. *of Charleston, America.*

A Number of extraordinary cures performed within the last twenty years, in the East Indies, on persons bitten by snakes, have been communicated to the public in Jones's Asiatic Researches. These were effected by eau de Luce, or by volatile caustic alkali. Similar cures are recorded in Anderson's Recreations, as having taken place in Pondicherry in 1798 and 1799. About the same time my much esteemed friend Mr. Peale, of Philadelphia, added a living rattlesnake to his valuable museum, and invited physicians and others to subject animals to its bite, with a view of determining, by subsequent experiment, the comparative merits of the different remedies commonly recommended for obviating the effects of the bites of venomous animals. The result proved, that the volatile alkali was entitled to a decided preference. Possessed of these facts, I have for some years past embraced every opportunity for ascertaining, by experiment, how far the bites of snakes, or the stings or bites of other venomous animals, might be alleviated by this powerful remedy. A few cases have occurred in my practice, both from the bites of snakes and from the stings of spiders, in each of which the result equalled the recorded beneficial effects of similar applications on the other side of our globe. The last was the case of a negro fellow, by name Stepney, who on the 3d instant was bitten by a rattlesnake at Health Farm, on Charleston Neck. I was not present; but my provisional directions were so punctually carried into effect as to save a valuable life, that in all probability would otherwise have been lost. The experiment was decisive; for though no other application than the volatile alkali was used, the most excruciating agonies of the patient were speedily relieved, and a complete cure obtained in a few days. From full conviction of the efficacy of the remedy, I recommend to planters, and others exposed to the bites of snakes, to have always at hand six or eight ounces of the strongest spirits of hartshorn, well secured; and in case of a person being bitten by a snake, to give him 60 drops thereof in water, every six or eight minutes, till his pains begin to abate, and then to lengthen the interval between the doses in proportion to the abatement of the pain. The wounded part should also be frequently washed with the same medicine. The spirit of hartshorn is particularly designated, because the planters are

are acquainted and generally provided with this medicine, and can command it in all seasons and places; though it is inferior in strength, and slower in its effects, than strong caustic volatile alkali, yet experience has proved that it is sufficiently strong to effect a speedy and complete cure.

Oil should not be given before or during the exhibition of the hartshorn; for it would weaken its effects, or combine with it and make soap. That the volatile alkali, properly administered, will in a short time cure the bite of any snake, or the sting of a spider, or any other venomous insect, is a medical fact as well established as that the Peruvian bark will cure an intermittent fever. There are exceptions to all general rules, and probably more to the latter than to the former. With the exception of a few extreme cases in which the bite proves instantly mortal, either from the uncommon virulence of the poison, the peculiar nature of the part which it is applied, or the operation of fear, the volatile alkali may be depended on to afford a certain and speedy cure. Of this we have authentic evidence in the books referred to above, which state cures performed in the East Indies by means thereof, even in cases where the poison had advanced so far that mechanical force was necessary to unlock the jaw before the medicine could be introduced.

Such persons as have no access to these authorities, or are slow to believe the records of distant events, are requested, for their further satisfaction, to inform themselves of the particulars of the cure beforementioned, as having taken place on Charleston Neck since the commencement of June, 1803. On inquiry they will find that the most alarming symptoms were removed in a few hours by the unassisted operation of this single remedy.

That volatile alkali should always succeed is not to be expected; but in nine cases out of ten its failure, on a proper examination of every circumstance, would probably be found to arise from one or more of the following circumstances: either the medicine given as volatile alkali was spurious, or inferior in its kind, or weakened by being frequently opened, or insecurely corked; or that it had been given in too small doses, or at too long intervals. Such persons as design to give it a trial are requested to be minutely attentive to each of these particulars.

As the hydrophobia following the bite of a mad dog has resisted all the remedies hitherto used for its cure, it is submitted to physicians whether, on principles of analogy, it would not be well to try the effects of volatile alkali, rather than

than resign a patient to his fate, or repeat the medicines which on frequent trials have always been found unavailing? A doubtful remedy is better than none. He who does not do all in his power to save a life, especially one committed to his care, is guilty of a species of murder.

I shall be obliged by information of the result of any experiments that may be made in consequence of this communication.

LETTER *to* DR. RAMSAY, *in Consequence of his* OBSERVATIONS *on the* BITE *of a* SNAKE *cured by* VOLATILE ALKALI. *By* BENJAMIN BARTON, M.D. *of Philadelphia.*

DEAR SIR,

I Have seen your Observations on "the Bite of a Snake cured by Volatile Alkali." I rejoice to find that you have undertaken the investigation of a subject so important as is the one on which you have favoured the public with the result of your experience. I hope you will pursue the inquiry, as I am well persuaded that we are in want of something much more efficacious as a cure of the evil effects induced by the venom of the rattlesnake, and other serpents, than any of the many vegetables which have been recommended to the public in such extravagant and unqualified terms.

Ever since the spring of 1801, I have paid a great deal of attention to the effects of the venom of the rattlesnake. I have had a number of these reptiles, both old and young, under my immediate care, and have caused them to bite many and various species of animals, with the view to collect materials for a history of the poison. My experiments have satisfied me, that the venom of the rattlesnake is one of the most deleterious substances with which we are acquainted. In many instances, the effects of the poison were observed *almost instantaneously*; and so rapid is the progress of effects, that several of the bitten animals, such as rabbits, dogs, &c. died in about thirty minutes. I may add, that a few weeks ago a man died in Jersey in twenty-seven minutes after he had been bitten by a rattlesnake.

The infirm state of my health, which compelled me to leave the city last summer, prevented me from pursuing my experiments as I had wished to have done; and the death of

of the only remaining two of my snakes, by the cold of the succeeding winter, has put it out of my power to do any thing on the subject this summer. But I shall not neglect to resume the inquiry next spring, as I have the promise of a number of living snakes; and I shall take great pleasure in making you early acquainted with the result of my experiments.

One of the objects of my inquiry is the discovery of the best means of preventing or of curing the disease occasioned by the bite of the rattlesnake, and others of our venomous serpents, such as the copper-head, &c. I feel no disposition to exhaust any of my time in experimenting with all, or even a twentieth part, of the many vegetables which have been praised and employed for these purposes in different parts of the United States. Many of these are unquestionably inert, and I think I have elsewhere shown how they have acquired their reputation. I am far from denying that some of the vegetables to which I allude are deserving of a *portion* of the praise which has been bestowed upon them. The seneca snake-root (*polygala senega* of Linnæus) is, without doubt, a plant of great powers, and may be worthy of our attention as a remedy against the bite of venomous serpents. You know that among the Indians this plant has sustained a high reputation in this respect. One of my correspondents (Mr. Samuel Preston, of this state,) has communicated to me a case which is worthy of being mentioned. In the year 1798, a man, whilst he was mowing, was bitten by a rattlesnake in the little toe of his foot. Almost instantly he was seized with a pain in his breast and eyes. The leg became greatly swollen, and violent symptoms of a genuine tetanus ensued. The seneca, which was at hand, was boiled in milk, and the patient drank large quantities of the decoction, at the same time that the root, in the shape of a poultice, was applied to the part immediately wounded. The medicine threw him into a profuse perspiration; in a short time all his spasms subsided, and at the end of two days he was able to return to his occupation of mowing again.

This case, to which I have alluded in my *Elements of Botany*, part iii. p. 105, is certainly an important one, as I think it plainly shows that the seneca is a medicine well adapted to *some* cases of the bite of a rattlesnake. I rather regret that, in the work just mentioned, I should have used the following words, when speaking of the medicine:—"Its great virtues as a remedy for the bite of the rattlesnake may, I believe, be safely called in question." I am

far, indeed, from supposing that it is an infallible medicine or specific: on the contrary, I have not a doubt that it would fail to effect a cure in many cases of the bites of venomous serpents. What relief could we expect from it, or indeed from any thing else, in cases (such as the one in Jersey) where death was induced in less than half an hour?

I shall not omit to try the effects of the volatile alkali. Hitherto I have not used it, because I had imagined that correct experiments had nearly robbed it of all its former reputation. It appears from the Abbé Fontana's highly interesting work on *poisons*, that this alkali, whether externally applied or internally exhibited, was of no use in diminishing the activity of the venom of the viper, which is so very similar to that of our rattlesnake. One quotation from the Italian philosopher's work I beg leave to lay before you: "I had (he says) several animals, such as hens, rabbits, guinea pigs, &c. bit in the leg, and some minutes after made deep and extensive incisions into the wounded parts. I washed these incisions with pure volatile alkali, and covered the legs with linen bandages. I got ready an equal number of animals of the same size, and of the same kinds, to serve as a comparison. These were likewise bit in the leg; but I neither made incisions, nor applied to them the volatile alkali. The result of twenty-four experiments was not favourable to this medicine applied to the incisions, and the violence of the disease was even more considerable in the former than in the latter. Upon the whole, Fontana is of opinion that his experiments "not only demonstrate the absolute inutility of the volatile alkali against the bite of the viper, when applied externally; but," that "they at the same time prove still farther that t cannot have a direct and specific operation when it is even taken internally."

I do not pretend, Sir, to decide between your experience and the experiments of Fontana. I can, in great sincerity, assure you that I repose much confidence in your caution and accuracy in conducting medical inquiries, and in your candour in relating your observations. But do we not very often describe effects, both good and bad, to our remedies, which those remedies have not produced? Do not our patients sometimes recover from violent diseases without the aid of any medicines whatever? Does not Nature (that is, the powers or tendencies of the constitution) very frequently cure a gonorrhœa? Nay, do we not find the same powers, in some instances, sufficient to cure the malignant disease of yellow fever?

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The result of all my inquiries relative to the poison of serpents is very favourable to the opinion, that the instances of spontaneous recovery from the influence of these poisons are numerous. Without admitting this position as a fact, what satisfactory explanation can be offered of the many recoveries from the bite of the rattlesnake, when the vegetables that were applied externally, or exhibited internally, were, if not nearly inert (mere *nutrientia*,) at least endued with the most opposite powers? Thus the bulb of *hypoxis erecta* (which grows abundantly in Carolina and other parts of the united States) is by many persons deemed a sovereign remedy against the bite of the rattlesnake. But this bulb, which I have often eaten, is almost as mild and inert as boiled rice.

That an animal which has been bitten by a rattlesnake, whose poison has induced most violent symptoms, such as acute pain, fever, and even palsy of the extremities, shall completely recover from these symptoms without the aid of any medicine whatever, is a fact which is familiarly known to me from my own experiments.

Permit me to suggest to you the propriety of employing active emetics, so as to excite full vomiting, in some of the cases of the bites of serpents that may come under your care. The very striking analogy which subsists between the effects of the venom of the rattlesnake and those of the poison inducing malignant yellow fever, has led me to suspect that emetics might be useful in the former as well as in the latter of these cases. Fontana found the tartar emetic useful in cases of the bite of the viper; and Dr. Boys, an intelligent physician who is settled at Staunton in Virginia, informed me (in my visit to that place last summer) that he had found emetics, so managed as to excite both puking and purging, *more useful* than any thing else in removing the symptoms originating from the bite of the copper-head snake, which is not less venomous than the rattlesnake.

July 23, 1803.

Examination of the Urine discharged by Patients affected with Diabetes. By Messrs. Nicholas and Guedeville, of Caen.

Physical Properties of the Diabetical Urine.

1. It has no smell, but a saccharine taste. 2. It is turbid and whitish.

Analysis by Means of Reagency.

1. It changes the blue colour of the tinctura heliotropii into violet blue. 2. Nitrat of silver occasions a caseous precipitation, but soon after this becomes violet, and the liquor is rendered clear, of a pale yellow colour, and acquires no smell. 3. Lime water renders this urine instantly turbid, disengaging a slight smell of ammonia, and some time after a white flaky precipitate is formed, consisting of phosphat of lime, after which the liquor becomes as clear as the purest water. 4. Concentrated sulphuric acid changes the colour of diabetical urine into a rose colour, but occasions no considerable precipitation. 5. Sulphat of mercury troubles this urine and makes a reddish precipitate, which is partly kept swimming in the liquor. 6. Kali occasions a far less precipitation and disengagement of ammonia, than it does in healthy urine. 7. Muriat of lead imparts a milky colour to it; and when the precipitate has subsided, the liquor remains quite clear.

Analysis by Evaporation.

On exposing diabetical urine for about six weeks to the accession of air at a temperature of from 10 to 12°, it became turbid the first six days, depositing a white flaky substance which proved to be albuminous matter. The clear liquor had an acid smell and taste, and strongly reddened the blue vegetable colour. The acid urine perfectly united with a solution of carbonated kali without much effervescence, and on having filtrated and evaporated the liquor, acetite of kali mixed with a small quantity of phosphat of kali was obtained. On evaporating four pounds of diabetical urine by a gentle heat, four ounces and a half of extract, of the consistency of honey, were obtained, which had a brown colour, and the smell of burned sugar. Ten parts of this extract being mixed with four parts of muriat of barytes and one part of charcoal powder, were well dried, and submitted to distillation in a re-

tort,

sort, but not any trace of ammonia or phosphorus could be perceived, nothing except carbonated hydrogen gas and a black oil of a disagreeable smell was disengaged. On adding four ounces of alcohol of 35° to one ounce and two drachms of inspissated urine, a yellow clear liquor was obtained, which however, twenty-four hours after, deposited a flaky greyish matter, weighing twenty grains, of a saline and rather saccharine taste. Lime water disengaged a slight smell of ammonia from it, and sulphuric acid blackened it, which experiment was attended with disengagement of sulphurous acid; all which intimates the presence of albuminous matter in the residuum. Part of the above mentioned extract, distilled with nitric acid, yielded oxalic acid and a small portion of phosphorus acid, and during this operation a great quantity of nitrous gas was disengaged. Four ounces and a half of the extract were diluted with one pound of distilled water, to which was added half an ounce of dry yeast. This mixture being exposed to a temperature of 15°, twenty-four hours after, the liquor began to ferment, whereby a great quantity of carbonic gas was disengaged. When the fermentation was finished, the author submitted the liquor to a distillation, by which ten ounces of a weak spirituous liquor were obtained, the smell of which was by no means agreeable. By rectifying, it yielded four ounces and two drachms of alcohol of 32°, which however retained the same disagreeable smell.

In order to separate the sugar from this urine, four ounces of the inspissated urine were diluted with one pound of water, and boiled, with the addition of one ounce of blood. After the liquor had been suffered to settle it was separated from the sediment, and clarified by the white of an egg. It was then evaporated to the consistency of a syrup, and exposed to the atmosphere; eight days after, small brownish crystals were perceived, which were neither so regular nor so hard as those of sugarcandy. When the liquor had been poured into an earthen vessel, it became dry five days after, resembling in form and colour common powdered sugar. Some experiments made on this substance proved it to be only saccharine mucilage, as it was decomposed by caustic kali.

The results of these different experiments are the following: 1. The urine discharged by persons affected with diabetes contains neither urée, uric acid, nor benzoic acid. 2. Ammonia and phosphats are present, but in a very small proportion. 3. It is capable of undergoing the vinous and acid fermentation. 4. It yields accordingly alcohol and acetic acid. 5. It contains saccharine mucilage.

The authors likewise examined the blood of diabetical patients; and from their experiments it appears, that the blood of such persons contains no saccharine mucilage; that the fibrous matter is present in a smaller proportion; and the serum abounds more than in a healthy state.

The saccharine mucilage is composed of oxygen, hydrogen, and carbon; whereas the urée contains a great proportion of azote, the absence of which occasions the generation of saccharine matter, and the diminution of the fibrous substance. When a due proportion of the azote is restored, the urée will again be generated and the fibrous substance augmented. For the cure of diabetes it is therefore advisable, first, to order a diet of substances which contain much azote, namely an animal diet; and, secondly, to prescribe those remedies which are chiefly composed of azote and phosphoric acid, as ammonia internally as well as externally; phosphats and phosphorous acid; and, finally, to remove the morbid state which prevents the due animalisation of the aliments.

New Method *of preparing* corrosive Sublimate *(hyperoxydated Muriate of Mercury) in the* humid Way. *By* M. L. Von Schmidt Phiseldeck.

It is well known how much apothecaries, desirous of preparing their own medicines, are indebted to Mr. Westrumb, for having furnished them with a method of preparing corrosive sublimate without being exposed to the dangerous vapour it emits during the sublimation. For some time past I have employed myself, merely from scientific views, in preparing corrosive sublimate according to this method. But however much I may be sensible of the advantages of this process, I cannot help regretting the loss sustained in the nitric and muriatic acids, which in general cost so much trouble and expense before they can be obtained pure. I reflected a long time on the means of avoiding this loss, and at length discovered a process much more economical than that of the chemist Hameln. The question was, to dissolve the mercury in the cheapest concentrated acid (this acid, without doubt, was the sulphuric acid,) and to present to the oxyd of mercury the muriatic acid without having separated it from its alkaline base. I resolved then to prepare a solution of mercury in sulphuric acid, and to decompose the sulphate of mercury by muriate of soda. I then hoped

hoped that I could easily separate the two salts that were formed by crystallization, as the sulphate of soda for its solution took only eight parts of cold water, whereas corrosive sublimate takes 162; but I found that after the first crystallization the two salts mixed, and that no other means of separating them remained but by alcohol. I shall pass over in silence, the operations which were attended with more or less success in this point of view, and describe only the process which I definitively adopted.

I introduced into a tubulated retort two ounces of mercury and three ounces three gross of concentrated sulphuric acid; I then adapted to the retort a receiver, without luting it, and made a pretty strong fire. During the solution there was disengaged a very considerable quantity of sulphureous gas. When nothing remained in the retort but a white mass, I added a solution of five ounces and a half of marine salt in six ounces of water, and exposed the mixture to strong ebullition for half an hour. A complete solution took place. I filtred the liquid while it was in a state of ebullition, put it into a retort, and distilled it to dryness. On the remaining mass I poured sixteen ounces of alcohol, and caused it to digest for some hours. I then decanted the liquid from off the residuum, filtrated it again warm, and put it once more into the retort after I had washed it, taking care not to spread any of it in the neck of the retort, and distilled it to dryness. I must here remark, that the distilled liquid, which at first had the colour of Malaga wine, assumed, after the solution was concentrated, the colour of water de Rabel; and the saline mass, after the complete evaporation of the alcohol, was exceedingly white. Lime water made no change in the colour of this liquid.

I poured over the mass in the retort twelve ounces of water; I boiled it to solution, and, having filtred the liquor, exposed it to crystallize. Very beautiful crystals in the form of elongated prisms were deposited. I then poured over the residuum eight ounces of new spirit of wine, and again obtained a cosiderable quantity of corrosive sublimate. The distilled liquid, after being rectified on half an ounce of potash, was perfectly pure.

By employing this method, corrosive sublimate, in my opinion, will cost one-half less than by Westrumb's process. Sulphuric acid costs only one-third of what the nitric acid does; and there is no comparison between the price of pure muriatic acid and that of marine salt. I therefore flatter myself that this method will meet with a favourable reception.

Remarks *on the* Efficacy *of the* Extract *of* Hemlock *in the* Cure *of* Tetters, *and particularly in the* Cure *of an inveterate* Disease *of the* Bladder. *By* Louis Valentin, M. D. *late Physician of the French Forces in St. Domingo.*

M. DAVID, an inhabitant of Cape François, 77 years of age, was tormented, for more than three years, by a strangury, for which he had taken the advice of many gentlemen of the faculty, and had used unsuccessfully a great variety of means, both internal and external, and finally bougies were introduced into the urethra. At length he called for my advice, about the latter part of the year 1791; and, amongst the exact accounts of his life, he observed that, twenty-eight years before that period, having been obliged to go to France, on account of an obstinate abdominal dropsy, he abstained entirely from all kinds of drink during twenty-five days on board of the ship, eating only, for his sustenance, some dry food; that when he landed at Bordeaux his belly was very much lessened, and in a short time after the cure was completed without any medicine. Some time after his return to St. Domingo, at the quarter of Dondon, near Cape-François, where his estate was, the dropsy began again to appear; and, in a second voyage, he was thoroughly cured by a methodical treatment under a French physician; but he was very sorry to be obliged to confess that he had abstained from drinking water only fifteen days in his passage. Thereupon he concluded that, being able to do in some degree without substantial food, he was determined to take any advice that I should give him, in order to alleviate the severity of his sufferings.

M. David had almost always lived a regular life, and his blood had never been infected by the venereal disease. His constitution was dry and lean. Having examined his disorder, I saw him making water by drops, with burning pain in the urethra, chiefly in the neck of the bladder; and, during one hour, by reiterated contractions and efforts, he never discharged but one, two, or three spoonfuls of urine. He was afraid of drinking any more, lest it should disturb his rest, of which he had been so long deprived. No obstacle was in the canal, no tumour in the rectum intestinum, nor in the prostate gland. The hypogastric

gastric region was nearly in a natural state. A looseness now and then disturbed and weakened him much.

There might be two immediate causes suspected—a stone in the bladder, or a particular disease in the membranes of that organ. Having introduced a sound, and after exploring attentively, I discovered no extraneous body; but I could not turn about my sound in its cavity as in other men. I found every where by the end of the sound a resistance as in a pocket of leather. I thought that a catheter of elastic gum might be useful in order to let out the superabundance of water, which the bladder could not hold without the most acute pain. But it was impossible for the patient to endure the catheter even two hours, notwithstanding his extraordinary courage. The half baths, the emollient topics, and all drink or other lenient medicines whatever, had never relieved him but for a moment.

Amongst my inquiries about remote causes of an old disorder, I learned that he was subject to the erysipelas and tetters, and showing me his left leg, I perceived a great mark of a ring-worm upon the inside of it, which itched so extremely that it caused him to scratch off the skin. Instructed already, by experience, in the effects of the repulsion of some acrid humour from the skin, and even of the gout and rheumatism upon the *viæ urinariæ*, I was induced to believe that his bladder could be affected by nothing but the humour of the ring-worm; that the membranes of it were thickened and hardened, and the size of the cavity decreased considerably in proportion to the length of its pathological state; and therefore the patient could not delay to evacuate a small quantity of urine, the contact of which provoked an irritability already much increased.

I began the cure with two pukes of ipecacuanha root, as much on account of the lax as to excite a shake from the centre to the circumference. Afterwards I ordered the extract of hemlock, increasing every day the dose, with six, eight, or ten grains; soon after it was brought up to a drachm. Then I continued the same weight more than a month, until he got rid of a great propensity to sleep (which he felt every day after dinner), and of some convulsive motions in his lips. The dose was after that increased to three drachms every day. I then perceived that the bladder kept in a great quantity of urine, and its extreme sensibility was much abated. However, an abounding excretion of spittle, with an inspissated mucosity, with-

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out any affection, either of the throat, the tonsils, gums, &c. was an inducement to diminish the dose for a short time.

Our patient drank also the juices of some of the depuratory herbs, but the diarrhœa coming on, he forsook them. I ordered to renew the dose, by degrees, to three drachms. He endured it perfecly well; and, in the sight of every body, he evacuated without interruption, and almost without pain, a large tumbler full of urine. He felt that the bladder was more extended, and that he could contain his water a long time. He went from home with a design to take a walk, what he had not done for three years past, being obliged to stand every moment, in order to make a few drops of water.

The ring-worm of the leg and the itching appeared no more. I had fixed a cautery under the knee of the same side, but it never discharged any matter. All the irritating and stimulating topics on the tetter, though in a small quantity, brought their action into the bladder and the canal of the urethra. I forsook them to wash only the leg with the decoction of althea.

In fine, sleep and the other functions of that age (the appetite excepted) were restored, after the use of the hemlock, in one year. In computing exactly, in every particular, the quantity of that extract, we found that M. David had taken sixty-four ounces of it, or four pounds. (There are sixteen ounces in the French pound.)

Some time after this cure, an insurrection happened in the town, in which one party attacked another. M. David being quietly seated down at home, near the door, St. Simon's Street, was, by chance, struck in the breast, and killed immediately, by a gun-shot, which was designed not for him but for a horseman who was escaping. I seized upon this occasion to open the dead body, and I called Dr. Baradat with a design to examine the bladder with me. We found it sound, smaller than in a natural state, and its membranes but a little thicker about the lower part.

Reflections *on the* Extract *of* Hemlock *(Conium Maculatum.* Linn.)

We see, by the above observation, not only the good effects of this remedy, but also the strong dose which the patient has borne without inconvenience (the inodorous salivation being excepted), when three drachms every day were taken. I have always ordered strong doses of it, and

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it never produced that last effect. It might, perhaps, be said, that the extract of hemlock contained mercury; but it is wrong, for no experiments have given any proof on that subject. It was fresh and well chosen, and appeared to be very good, being procured from Messrs. Saussay and Prus, apothecaries at the Cape. The same remedy has never produced that effect in any other instance; having made a copious and successful use of it in the cure of obstinate tetters in the West Indies, some time together, with the strained juices from herbs of a soapy and nitrous quality.

However, I have recently seen at Norfolk, in Virginia, a person to whom I prescribed the extract of hemlock, by degrees to one drachm per diem, casting up a great deal of spittle, afflicted with a sore throat, sore gums, tonsils, &c. Gold, when rubbed with that medicament, would become white immediately, and I discovered easily the quick-silver. It was a mixture of Bellost's pills and a small quantity of extract.

Every physician knows how exceedingly the extract of hemlock has been praised by Dr. Storck for the cure of cancers; but numerous experiments have proved its insufficiency, not to say its inefficaciousness; and its virtues in those cruel diseases are now come to nothing, as well as the praises and boastings of its admirers. It is not the case as to the diseases of the skin, ulcers, and some oppilations issuing from them, and even sometimes from a venereal disease, after an unsatisfactory treatment with mercury. The climbing morel *(solanum scandens seu dulcamara)*, so celebrated by Dr. Carere, of Paris, and lastly by Dr. Otto, from Gotha; the bark of the pyramidal elm, by Dr. Banau; the soap-wort *(saponaria officinalis,)* by Dr. Retz; the antimony of Jacquet; and a great many other chemical compositions, which, nevertheless, are not to be rejected, seem not to produce so good effects as the mere extract of hemlock, especially when its use is combined with a vegetable diet and exercise. All animal and greasy food, fit to increase or maintain the bilious plethora, ought to be interdicted; for the remote causes of those disorders exist undoubtedly in the organs of digestion, which have a great connection with the skin, but essentially in the liver. Therefore Galen says judiciously, "*Herpetes biliosus procreat succus.*"

This remedy must have an excellent effect, taken in sufficient doses, and continued a long time. At St. Domingo I joined with it the cold-bath; I repeated, from time to time,

time, vomits with tartar-emetic, preferring often a drink with vinegar, sugar and water, to that of sarsaparilla decoction. Sweats are in those cases always salutary, but they must not be provoked with hot and acrid sudorifics. Among the five kinds of tetters with which we are acquainted, the *herpes pustulosa et squamosa,* and the *herpes viva et suppurans,* are there the most common; and often many people are cured by changing the climate only.

The desiccative and repelling ablutions and liniments are sometimes employed successfully, but it is only about the end of the treatment, and they must be prescribed cautiously.

Permit me to observe, that the alkali volatile fluid, and the sudorific syrups of mercury, which some surgeons of St. Domingo make use of, have frequently produced pernicious effects. Mercury is very noxious when there is not a venereal taint; and those ring-worms do not originate often from it, as is commonly believed.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

THE subject of Gout having lately been brought forward in the Medical and Physical Journal, in consequence of the treatment proposed for its cure by Dr. Kinglake, I shall make no apology for troubling you with the following observations. It is not my intention to enter into the controversy that has taken place between Dr. Kinglake and a Constant Reader, but merely to state facts as they have occurred to my knowledge. The application of cold water, with a view of reducing morbid excess of temperature, does not appear to be a new remedy, but on the contrary; and, like many other remedies for disease, has been laid aside, and after a time resumed.

I have always been in the habit, since I began medical practice, of using cold water as a topical application in local inflammation of the joints; but since Dr. Kinglake's communications, I have employed it in every case of acute rheumatism, as well as gout, which has fallen under my care, and am happy to say with uniform success, in cutting short the disease. Many instances could be produced by me to prove, that the application of cold water is not only

only a perfectly safe remedy in gout and rheumatism, but a highly beneficial one. The following is a case of acute rheumatism, in which it was used with decided advantage.

J. Stockdale, aged twenty-three years, was attacked in January last with severe febrile symptoms, pain and swelling in the ancles, knees, and wrists; the pain was very violent, particularly at night, and when in bed. He had been ill a week when I saw him, and had been attacked on the day previous to my visit with a violent fixed pain under the left breast, extending to the clavicle, attended with cough and difficulty in breathing; he expectorated a considerable quantity of bloody mucus. He was ordered to take ten drops of the tinctura digitalis every four hours, in a glass of cold water, and fifteen grains of pulv. ipecac. comp. at night at bed-time; the joints were directed to be kept constantly wet with cloths, dipped in a lotion composed of water, coloured with tinct. lavendulæ composita. On visiting him the next day, I found he had rested better, was freer from pain and the swelling somewhat diminished, but, as his breathing was still impeded and cough troublesome, it was deemed proper to apply a blister to the side. The tinct. digitalis, and pulv. ipecac. comp. were continued as before, and the red lotion applied to the tumefied parts, which he was eagerly desirous of having renewed every few minutes, as it made him so comfortable and easy. He went on mending rapidly, and in the course of seven or eight days from my first seeing him, the swelling and pain had subsided, his fever and cough had left him, and he had not a symptom of disease but general debility, for which he took half a drachm of bark three times a day. It is to be remarked that this patient had been seized with this disease about six weeks before, in a slight degree, from which he soon recovered, but having imprudently exposed himself to wet, brought on this second attack.

From a variety of cases, in which cold water has by my direction been applied to arthritic inflammation, I shall deem it necessary to state only one, as they would all tend to establish the same point, viz. the efficacy and propriety of the remedy. Mrs. B. between fifty and sixty years of age, has been subject to the attack of gout, in one or both feet, for several years. She has, usually, had two or three fits in the year, and those generally tedious and very painful ones. In last December she was attacked with inflammation and swelling in both feet; the pain was very severe. I saw her the day after the coming on of the fit, and proposed the application of the red lotion; but, as

Mrs.

Mrs. B. had always been in the habit of applying warmth, by flannel, &c. she for some time objected to the application of cold, and it was no easy matter for me to overcome her prejudices; however, she consented, and cloths well wetted were wrapped round the feet and kept constantly upon them; the almost immediate effects of which were, an abatement of the pain, and by continuing the application she was in three days completely cured of the complaint, a little stiffness and debility of the foot only remaining for a few days more. The patient was, as may be readily conceived, highly pleased with the remedy, and not a little surprized at its beneficial influence in so short a period.

Harleston, Norfolk,
March 6, 1804.

I am, &c.
THOMAS TAYLOR, Surgeon.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

I Have been a constant Reader of your Journal since its publication, and have frequently been highly interested with many of the very useful papers it has contained; but I must confess to you that, within the last two years, its productions have appeared to me less valuable, and have tended more to embarrass than elucidate the Science of Medicine. Instead of liberal discussion on difficult points of pathology, which might lead to useful discovery of means that might alleviate or remove disease, it would seem that victory in controversy has veiled the sentiments of many of your correspondents, and led to an illiberal and ungentlemanly conduct.—What can be more gratifying than the plain and unadorned relation of facts, or opinions, which accompany the details of the well-informed and modest mind? I need not refer to verbal quotations to strengthen my assertion; your various numbers of late will singly supply abundant proof of its truth; but your last, in particular, contains a paper which shows such determined marks of hostility, and a determination to subdue, that I think none of your readers can approve the selfishness it betrays, or assent to the opinions which it unfolds.

If your correspondents would honestly detail to you the many

many varieties of disease they meet with in their practice, if they would fairly state to you how inefficient, on many occasions, are the most powerful means, where frequently the most trifling remedies are followed with success, great advantages might accrue to society; and medicine, on most occasions, instead of being a complicated, would be rendered a machine of easy movement. Theories are of little value if they do not lead to successful practice; and the patient may be dead before this or that opinion shall decide on the remedy for his welfare. Of what worth can it be to me, or my surrounding friends, whether apoplexy depends on effusion, or a defective nervous energy, if the means adopted for its removal avail nothing, and one I highly esteem is sent to the grave? Ingenious men have no difficulty in forming theories to explain difficult appearances; but I would enquire, whether our knowledge is sufficiently distinct of the operations of the nervous system, and the relation between this portion of our frame, and the other parts of the system, to warrant us in deviating from the path of successful experience?

With respect to apoplexy, I have seen many cases where bleeding has quickly sent the patients to the grave. I have also seen emetics given with no immediate bad effect, but where the patient has afterwards languished in hopeless debility for years. I have also known where stimulants have been given, and where neither bleeding, nor vomiting, nor purging were employed, that the patient, who was in years, from not being able to speak distinctly, or move even a finger, has so far recovered as to walk round her premises, and converse with her friends. It has always appeared to me a necessary consideration, on being called to an apoplectic patient, that my views of the cure were not so much to be directed by the disease being apoplexy, as in directing my mode of cure to the removal of habits, or their consequences. I am fully persuaded if more attention was paid to this circumstance, more lives might be saved; and, though the lost energy of the system might never be restored to its former vigor, yet that we might so far recover its tone as to make life move on with ease, if if not with delight. From a considerable share of experience, I know well that the stomach will direct by its feelings the comfortable movements of the whole frame, and I am fully persuaded it has great influence in producing the apoplectic state, by uneasy irritations existing in it. I know well that tea for breakfast has in many led to feelings which have approached the apoplectic state. I know also

also that the drinking of rum has generated an acid in the stomach, which has produced an irritation there that has led to insensibility for a considerable time. I need only appeal to those who accustom themselves to take hot water with spirits at bed time, and make a breakfast the next morning of tea, to be informed how frequently they have languished before dinner, and how often they have sat down to a plentiful repast without being able to eat. Nor need I ask them how often their minds have been wavering, and discovered a temporary absence of thought, and a suspension of its other faculties? What is this but an approaching state of apoplexy, or a diminution of feeling? In such instances, I conceive, neither repletion, nor inanition, have any thing to do in producing apoplexy, but that irritations, excited in the stomach by peculiar means, are the sole cause in ninety-nine instances of a hundred.

I have something also to state to you on the gout, and I wish my experience could assure you of its removal by any means, if there be a want of resolution. Habit so completely subdues resolution, that I have met with very few, who after a time have not given way to inclination, and whatever good has been done, has very shortly been undone by reverting to former modes of living, and gout has returned with ten-fold violence. But I can relate the history of others, whose steady perseverance in plans laid down for their good, has amply rewarded their resolution, and though the gout had attacked them with the utmost violence, they continue to escape its painful and subduing efforts by their well judged prophylactic plan. Gout appears to me to be a general disease, and not to be cured by local means. In most gouty persons there is a highly irritable nervous system, whose balance with other parts of the body is destroyed, either by artificial means, or a defective structure. Where the latter prevails, little good is to be done; but in the former state of disease, every advantage may be derived from diet, and the employment of means which allay irritation through the medium of the skin. I know a gentleman, whose father died a martyr to the gout, who has himself been subject to its most violent attacks, who by resolution in adhering to a plan of diet recommended to him, has been almost entirely free from it for several years. This gentleman, from a belief that a bottle of wine after dinner, with ardent spirits and water, or punch after supper, would completely remove the gout, found by painful experience that he only increased its

tendency

tendency to return, and at length paralytic symptoms showed themselves. Since that time, which is now some years since, he has been exceedingly regular in his diet, and he enjoys better health than he had done for many years.

This gentleman is a striking instance of gout, as well as apoplexy, being connected with a peculiarly irritable state of the stomach. He can induce gout at any time by cucumbers, or a few grapes, or by eating any thing that has a tendency to produce acidity. I have attended another gentleman, who is so extremely irritable, and whose father was very gouty, who has had several attacks of it, from drinking a few glasses of wine, or brandy and water, and so strong is its tendency to recur, that the most trifling deviation from the most abstemious regimen, makes him feel its return. His persevering resolution in regimen is amply rewarded by good health and activity. Is it reasonable to suppose, that in either of these cases, with many others I could enumerate, that the local application of cold water would really cure the gout, if no attention was paid to the general habit of the patient? It appears to me so contrary to all sound experience, that medical men must wish for farther proof, before such a remedy can be generally employed with confidence, or employed at all without great hazard, if general means are not at the same time enjoined.

MEDICUS.

On Meteorical, Stony, and Metalline Substances; *by Mr. Klaproth, of Berlin.*

A VARIETY of facts has now rendered it indisputable, that stony and metalline substances have fallen on the earth at different times, however miraculous such a phenomenon may appear, and however it may differ from what is observed as the common order of Nature. The physico-chemical properties likewise which these substances possess, apparently declare their identity, and are capable of throwing some light on their origin and mode of formation. Any contribution, therefore, towards explaining so remarkable a subject must be acceptable to the philosophical naturalist. Mr. Klaproth, whose name ranks high amongst the modern chemists, having obtained a sufficient quantity of those substances, which have fallen

on different parts of our globe, took an opportunity of submitting them to a chemical analysis, the results of which he communicated to the Royal Academy at Berlin, and are as follow:

I. *Analysis of the Meteorical Stones from Siena.*

The account of the curious phenomenon by which these stones were thrown on the earth is sufficiently known. The accident happened in June 1794, near Siena, in Italy, where, about seven o'clock in the evening, a small dark cloud was perceived in the sky, which otherwise remained clear. Soon afterwards a violent explosion took place, attended with lightening, which resembled the discharge of a battery. At each explosion a considerable motion was seen in the nebula which surrounded the cloud, and a great quantity of stones fell down, most of which were small, but some were found of seven pounds weight. The force of the fall was so great that it occasioned a hissing noise in the atmosphere, and the greatest part of the stones was found buried several feet deep in the ground, which had become soft by the preceding rains.

Mr. Klaproth received several specimens of those stones; they were all covered with a thin crust of a grey blackish colour, without gloss, and of a rough and uneven surface. When these stones are broken, they show a very dissimilar texture; the chief substance, however, is ash coloured, and has the appearance of hardened argilla, but not the least smell of it. The particles that are discovered in it, consist of four different substances, the most remarkable of which is iron in a metallic state, found particularly near the crust in form of small eliptical grains. They may be extended by means of a hammer, and the file stroke appears white and glossy. The second substance is martial pyrites, which is distributed in small particles and veins, and has a reddish-yellow colour. The third substance is mixed with the whole in a greater proportion, and consists of small bodies of various sizes, mostly flat and angular. They have a considerble hardness, a black, grey, or brownish colour, a conchoid fracture, and a small degree of lustre. Besides these small globular bodies are perceived, of a yellowish colour and a vitreous lustre; much resembling quartz without having its hardness. The whole stone has not the least similarity with any of the known fossils, or rocks. The specific weight is between 3,340 and 3,400.

1. Two

1. Two hundred grains of the meteorical stone from Siena having been grossly pulverised in a glass mortar, the globules of iron were separated by means of the magnet, and weighed about six grains and a half, which were infused in muriatic acid, and the solution promoted by a gentle heat; during this process sulphurated hydrogen gas was disengaged, which arose from the small particles of martial pyrites that adhered to the iron grains. The clear solution had the green colour of emerald. On being precipitated, and afterwards supersaturated with caustic ammonia, the liquor became light blue. This liquor, after being separated from the precipitated oxyd of iron, was evaporated to dryness, and the remaining greenish salt ignited in a platina crucible, by which it was changed into a soft micacious powder, and gave a green solution with nitric acid. On adding to it carbonat of kali, three grains and a quarter of oxyd of nickel were precipitated; of which, after ignition, remained 1,60 gr. of a greyish-green oxyd of nickel, equal to 1,20 of metallic nickel. The oxyd of iron, after being ignited in a close crucible, appeared blackish, and weighed six grains and a quarter, which is equal to about four grains and a half of metallic iron.

2. The remaining 193½ grains of the stone, after being finely pulverised, were extracted by repeatedly infusing and digesting them with muriatic acid, whereby a disengagement of sulphurated hydrogen gas was occasioned. The colour of the liquor was straw-yellow. The greyish-white residuum being mixed with three times as much of caustic natron, and ignited, was softened with water, then supersaturated with muriatic acid, and afterwards evaporated to dryness. It was now again mixed with water, and the insoluble part separated by means of the filtrum, edulcorated, dried, and ignited. It weighed eighty-eight grains, and consisted of siliceous earth.

3. A precipitation was effected in the muriated solution when boiling, by means of carbonat of kali, which appeared dark green. Caustic ley, with which it was boiled, had no remarkable effect on it. After the precipitate had been sufficiently edulcorated, it was dissolved in sulphuric acid, and the solution evaporated to dryness; the salt thus obtained was strongly ignited, by which means it became pale red, and dusty. It was boiled with distilled water and filtrated; the residuum being edulcorated and dried was mixed with oil and made red hot in a close vessel, by

which means fifty grains of a black oxydulated iron were obtained.

4. The remaining sulphurated liquor, when boiling, was decomposed by carbonat of kali, by which means a precipitate, consisting of magnesia, was obtained; it weighed forty-five grains and a half. The earth was soft and ash-coloured. On dissolving it in sulphuric acid, a black precipitate fell down, consisting of oxyd of manganese, which after ignition weighed half a grain. The liquor being freed from this oxyd became quite clear, and deposited crystals of sulphat of magnesia. The proportions of the constituent parts of the stone from Siena are in 100 parts as follows,

Perfectly metallic iron - - -	2,25
Metallic nickel - - - - - -	0,60
Black oxyd of iron - - -	25,
Magnesia - - - - -	22,50
Siliceous earth - - -	44,
Oxyd of manganese - -	0,25
Loss, including the sulphur and oxyd of nickel -	5,40
	100.

The quantity of the oxyd of nickel, as well as of the sulphur was too small to be accurately estimated: The presence of sulphur was decidedly indicated by the disengagement of the sulphurated hydrogen gas.—A piece of meteorical stone being put into an earthen crucible, was exposed to the fire of a porcelain furnace; where it touched the crucible it was found to have melted with it, but in the middle it was changed into a spongy dross of a moderate metallic lustre.

Analysis of a Meteorical Stone from Aichstaedt in Germany.

The account of this substance is related by Baron Hompesch as follows. "In winter, when the earth was covered one foot deep with snow, a labourer who worked in the fields saw this stone fall down, immediately after a preceding thunderstroke. He instantly ran to the place where it had fallen, and endeavoured to take it up, but it was so hot, that he could not touch it, and was obliged to let it cool. The stone was about half a foot in diameter, and covered with a black crust of iron. It greatly resembles the stone of Siena with respect to its external crust as well as the internal structure, but the particles of martial pyrites

rites are changed into a brown oxyd of iron. It was examined in a similar manner with the former, and the constituent parts were obtained in the following proportion.

Perfectly metallic iron -	19,
Metallic nickel - -	1,50
Brown oxyd of iron -	16,50
Magnesia - - -	21,50
Siliceous earth - -	37,
Loss, including the sulphur and oxyd of nickel -	4,50
	100.

No trace of sulphat of kali, or natron could be discovered in this substance.

2. *Analysis of the Meteorical Iron from Sclavonia.*

This remarkable mass of metallic iron is preserved in the Imperial Museum at Vienna; it has the form of an irregular triangle, and weighs seventy-one pounds. The external surface is full of deep impressions, but the inside appears solid, like hammered iron, of a zinc-white colour and a considerable metallic lustre. The account of the phenomenon by which this mass was thrown down, is the following. On May 26th, 1751, about six o'clock in the evening, a fiery globe was perceived in the atmosphere near Itraskina, in the Bishoprick of Agram in Sclavonia, which, with a violent explosion, separated into two parts, and fell down in form of two twisted chains with a great noise. The larger piece, which first came down, had penetrated into the earth with such force, that it caused a kind of earthquake in the adjoining ground. It had occasioned a chasm three fathoms deep and one yard broad. The second piece weighed sixteen pounds, and had fallen in a meadow two thousand paces distant from the other, where it had occasioned a similar chasm. The Bishop of Agram, to whom the larger piece had been presented, sent it to the Imperial Museum of Vienna. Mr. Klaproth having obtained a piece from that mass, submitted it to a chemical analysis.

1. A hundred grains of this iron being infused in muriatic acid were put in digestion. The solution proceeded slowly without the least disengagement of sulphurated hydrogen gas; it had a beautiful emerald-green colour. In order to oxydate still more the dissolved iron, some nitric acid was gradually added to the solution till no

 effervescence

effervescence ensued, by which means the green colour was changed into red-brown, and the iron perfectly dissolved.

2. The solution was supersaturated with ammonia, and the oxyd of iron, thus precipitated, was digested with weak caustic ley, edulcorated, dried, and ignited for half an hour. In this state of red-brown oxyd of iron it weighed one hundred and forty-two grains, which comes near to ninety-six and a half of metallic iron.

3. The ammoniacal liquor appeared light-blue, and being sufficiently evaporated, the greenish salt mass that remained was gently ignited, till no fumes were any longer disengaged. The residuum being dissolved in nitric acid formed a greenish solution, in which a precipitation was effected by carbonat of kali, and the oxyd of nickel thus obtained was ignited. It weighed one three-quarter grain, which indicates three grains and a half of metallic nickel. The proportion of the constituents are, in one hundred parts,

Metallic iron — — — —	96,50
Metallic nickel — — — —	3,50
	100.

4. *Analysis of the Meteorical Iron from Siberia.*

It is very probable that the mass of iron which was first discovered by the celebrated Pallas has the same origin with the former. It is said to weigh one thousand six hundred pounds. It is covered with a rough crust of iron, but internally consists of metallic iron, in whose cellular interstices a yellowish fossil, similar to olivin or crysolithes, is disseminated. In order to know whether this iron equally contained nickel, it was treated in the same manner as the former. After the precipitation of the oxyd of iron by caustic ammonia the remaining liquor appeared light-blue, and left, after evaporation, a greenish salt mass, from which, after the evaporation of the muriat of ammonia, the nickel was separated. The proportion of both metals, in one hundred parts, was

Metallic iron — —	98,50
Metallic nickel — —	1,50
	100.

Of the yellowish substance belonging to the Siberian iron, one hundred grains were infused with three hundred grains of concentrated sulphuric acid and the same quantity

tity of water, and after sufficient digestion distilled, and the liquor was cohobated. The residuum was mixed with boiling water, to which some sulphuric acid had been added, and afterwards filtrated. Siliceous earth remained, which weighed after ignition forty-one grains. The sulphuric liquor was evaporated to dryness, and the residuum strongly ignited, by which it became pale red and dusty. Being infused with water, and filtrated, a red oxyd of iron remained, which after being edulcorated, dried, and mixed with oil, gave, after ignition, eighteen grains and a half of black oxyd of iron. The liquor, which was free from iron, deposited crystals of sulphat of magnesia, and the magnesia obtained from it weighed, after ignition, thirty-eight grains and a half; one hundred parts, therefore, contained,

Siliceous earth — —	41,
Magnesia — — —	38,50
Oxyd of iron in an attractable state	18,50
	98.

The author comparing in the second section of his Treatise his analysis with those made by other chemists on these meteorical substances, states, that except in the quantitative proportions, they perfectly agree with his examinations; a circumstance which seems to prove the common origin of all those substances. In the third section he relates several instances of the fall of meteorical substances, which he found recorded, as an addition to those mentioned by Mr. Chladni.

In the fourth section the author relates the opinions of several naturalists on the origin of meteorical substances, viz. La Place's, Chladni's, &c.

Mr. Klaproth concludes his paper with examining the native iron from Karnsdorf in Saxony, in order to find out the difference between this and the meteorical iron. According to the results of his analysis, the native iron of Karnsdorf contains, in one hundred parts,

Iron — — —	92,50
Lead — — —	6,
Copper — — —	1,50
	100.

From these experiments it results, that the presence or absence of nickel may serve as a criterion for discovering any native iron from such iron as is of a meteorical origin

SUBSTANCE OF A MEMOIR *lately published by Cit.* CHAUSSIER, *Professor in the School of Medicine, at Paris, on the* MEANS *of preserving the* DEAD BODIES *of* ANIMALS *from* PUTREFACTION, *and preserving their essential* FORM, *and even by giving them* FRESHNESS *and the* APPEARANCE *of* LIFE.

THE bodies of animals, when they are deprived of life, exposed to the action of the atmosphere, plunged in water, or buried in the earth, speedily pass to a state of putrefaction, and become the food of worms and insects, and after a time, always very short, the mass of their flesh becomes reduced to some hectograms of a dust, which the winds disperse, which the waters carry away, and which vegetables absorb for their nourishment. This destruction, this alteration, so great, and so rapid, is a necessary consequence of the quality, of the very nature of their constituent parts, of their tendency to decomposition, and of the considerable quantity of fluids which they contain in comparison with the solids. In order, therefore, to preserve the carcases of animals, or any of their parts, we must necessarily change the natural order of their composition, and by the help of different agents, determine new combinations, which, by preserving the essential form and texture, may be, at the same time, imputrescible, unalterable by the vicissitudes of the atmosphere, and unattackable by insects.

After these primary considerations, which serve as a basis to his researches, Cit. Chaussier examines the different processes which have been successively employed, for the preservation of entire carcases, or of anatomical pieces; and after having remarked that some are illusory, and that the others do not protect animal substances from the voracity of insects; that all are attended with the inconvenience of altering the essential configuration, and of reducing the body to a shapeless mass, he announces the solution of sur-oxygenated muriat of mercury, in distilled water, as the most likely method to accomplish the desirable object. The use of this saline solution on animal substances, must vary according to the size and the condition of the object which it is intended to preserve. If it be only a separate piece, like the most of anatomical preparations, it is sufficient to plunge it in a solution of sur-oxygenated muriat of mercury, and to add in the vase one or more knotted parcels of fine linen, which contain some

some grammes of this mercurial salt, a precaution essential to the ensuring its remaining always equally saturated. After ten, twenty, or thirty days of immersion, that is to say, when the part has been penetrated through its whole extent by the saline solution, when a new combination has been operated through all its points, we may draw it out of the liquor and place it in a narrow-necked jar or bottle, filled with distilled water, lightly charged with sur-oxygenated muriat of mercury, or else it may be exposed in a well-aired place, sheltered from the sun and from dust; it will then get dry, by little and little acquire a consistence and a hardness resembling wood; and in this state, says the Professor, it can no longer be either altered by the air, or attacked by insects. This, indeed, has been sufficiently proved by his experiments; Cit. Chaussier having for many years abandoned pieces thus prepared to insects and to the vicissitudes of the atmosphere.

The preservation of the entire body requires particular care and attention, all the details of which it would be impossible to comprise in a simple notice. It is in some measure a new art, the process of which can only be well executed by an experienced anatomist. It may be remarked, however, that to succeed compleatly in this preparation, there should be, by preliminary incisions, performed according to art, certain foramina or apertures made, by which the saline solution may penetrate easily and readily through the texture of all the parts; and when it is intended to give freshness and the appearance of life to the cadaver, it will be requisite, previously, to fill the vessels and cellular tissues with a solution of coloured gelatine or jelly. There should be, likewise, placed in the ocular orbits, eyes of enamel, proportioned to the age and habitual condition of the subject. After these preparatory processes, the cadaver should be plunged in the saline solution of sur-oxygenated muriat of mercury, and be kept there longer or shorter, according to its bulk or magnitude; after which it should be taken out to let it dry slowly, and thus form a sort of mummy as durable as those of Egypt, and which has, moreover, the advantage of preserving the characters and essential traits of physiognomy.

During the two years since which Cit. Chaussier compiled this Memoir, he has continued his experiments, and made an application of his method to different objects; he has, consequently, found that the solution of sur-oxygenated muriat of mercury, not only preserved animal substances from putrefaction, but likewise that it stopped the

 progres

progress of it when commenced, and brought them back, in some degree, to their former state. He has made use of it, with the greatest success, to preserve wood, cartoons, peltry, &c, from the voracity of insects. It may be likewise employed in cabinets of natural history for the preservation of birds and small quadrupeds. For example, instead of following the usual method of impaling or stuffing birds of a moderate size, Cit. Chaussier contents himself with making an incision on the mediant line of the abdomen. He removes the viscera which are contained in it, as, likewise, those of the thorax, at the base of the cranium, through the duct or channel of the gullet, (an aperture very convenient to take away the encephalon) and after having made, under the skin in the thickest part of the thighs, different issues or apertures, he plunges the body in the saline solution, keeps it there for a longer or shorter time, and then takes it out; and when it has sufficiently drained, he fills the abdomen and the thorax with fine tow, sews up the incision that had been made, and gives to the body the attitude which it ought afterwards to preserve. Insects may be destroyed or driven away from animals that have been a long time prepared, by plunging them during a certain time in the saline solution.

To the Editors of the Medical and Physical Journal.

Gentlemen,

YOUR popular Journal of medical intelligence seems to be a fit medium for suggesting improvements in the Medical Art. A late unfortunate duel near the metropolis, has given rise to the following observations and proposals.—Without supposing any deficiency in skill and energy attaching to the professional gentlemen who attended the case alluded to, and without any documents of greater authenticity than the medical evidence given before the Coroner's Jury, and that of a gentleman not in the profession, I have ventured to submit these thoughts to the profession and to the public.

According to the evidence already mentioned, this nobleman received a wound from a pistol bullet, which penetrated the right side of the chest and lodged in or about the medulla spinalis. From the described course of the ball it must have penetrated the outer and posterior part of the

the lungs only, where the pulmonary arteries and veins are of smaller diameter than in the thicker part or at the root of the lungs. Had the ball however passed through the larger blood-vessels of the lungs, such wound was not inevitably mortal, because numerous examples of recovery under such circumstances have occurred. The wound of the lungs was not therefore the fatal sign which produced the surgical despair on this occasion. But the ball penetrated through or between some of the vertebræ about the middle of the back, and the sure sign of injury done to the medulla spinalis, viz. loss of sensation and motion in the lower extremities, followed. Was this loss of sensation and motion immediate upon receiving the wound, or did it progressively increase? This was the critical symptom, for upon this and its attendant effects does it appear that life or death depended, as well as the possible chance of relief by a surgical operation. Now the osseus canal for containing the medulla spinalis in the dorsal vertebræ is about eight-tenths of an inch in its transverse diameter, and seven-tenths of an inch between the anterior and posterior sides of it, and the ball of a modern duelling pistol is not more than four-tenths of an inch in diameter; it is therefore evident that the ball could not of itself wholly divide the spinal medulla, even supposing it to pass directly through the centre of the vertebral cavity. Other chances would arise in the mind of a surgeon, such as those of protruded portions of bone; of the ball lying within the theca vertebralis, without having divided any part of the medulla, and all the degrees and combinations of these circumstances. Whether or not any external marks or sensations on the region of the spine indicated the place of the ball's lodgement, I am uninformed, but it is most probable there were; and if not, the course of the ball would have directed a reasonable guess at the precise part. To propose any surgical operation for the relief of such danger is not very consistent with professional prudence, but it may be a question with many persons, whether such prudence ought to decide the fate of a man, whose rank and talents promised (when duly regulated) the highest services to his country. It is said, upon good authority, that large doses of opium, with a view to smooth the way to death, was the only professional treatment adopted in this instance; and as these observations are not levelled at the respectable gentlemen employed, but are addressed to the profession for future occasions, and to the public, as an encourage-

encouragement to support a desperate effort rather than abandon life without giving a chance, I feel warranted in the freedom of my argument. It has happened in my experience, that the exhibition of opium increases symptomatic fever, and promotes hæmorrhages from wounds; which last I suppose to ensue principally from its diminishing the contractile powers of the blood vessels, and perhaps also the coagulating propensity of the blood.—Opium therefore, on these principles, would hasten death by loading the lungs and the cavity of the chest with blood, whilst the other wound in the spine continued its natural progress.

As a faint hope, and with a sincere wish to promote the utility and rank of the profession, I would propose to treat a future similar case in the following manner. To bleed freely from the arm as soon as the mind had recovered the shock, and to keep the pulse constantly low and feeble during the first six or seven days, by repeating the operation according to the pulse, and by a strict abstinence from nutritious and stimulating food. If the injured part of the spine can be discerned, or fairly indicated, then I see no objection to an operation similar to trepanning on the skull, by the help of small saws, such as described in Mr. Hey's Surgery. This operation could be put in practice without any immediate ill consequence, because after the integuments and muscles were removed, and the two rami of the spinous process sawed through, the canal of the spine would be exposed, so as to enable the surgeon to remove any extraneous or injurious body, and at least a chance be given to the patient not much worse than that afforded by trepanning the skull. Whether such an attempt was or was not warrantable in the case now spoken of, I cannot tell; but I trust the known rank of these professional gentlemen would induce them to exert every possible effort, and even to risk their own prudential feelings for such a grand object. I am, &c.

London, March 19, 1804. JULIUS ACER.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

THE great object of all our exertions is the attainment of happiness. The prodigal and the miser, the peasant and the philosopher, all keep in view this attractive prize,

but

but follow it through different paths; a discovery or invention excites our approbation, as it is likely to facilitate its attainment. It is this which constitutes its excellence, and to this we must ultimately refer in examining its claim to utility. The present age teems with innovations; but amidst the varied crowd, the Cow-pox excites the greatest attention, and the most sanguine expectations. By means of its introduction, the medical profession expect to destroy a disease, which has so long continued its extensive ravages, and thus to remove a portion of evil from the world; but its future advantages remain to be questioned by philosophers and to be determined by experience. Some doubts upon the subject have lately appeared in a paper, signed Scepticus, which drew forth two answers shortly after. If I may judge from his silence, the doubts of Scepticus are perf ctly removed; but as the arguments of these writers have produced no conviction in my mind, I shall proceed to the statement of my sentiments.

What are the probable consequences of the extermination of the Small-pox?

1st. I shall state the principles which are the foundation of my opinion.

2d. I shall apply them to the solution of this question.

3dly. I shall consider the arguments contained in the answers.

The human species, if supplied with ample stores of subsistence, double their numbers every twenty-five years. The United States of America bear undeniable testimony to the truth of this position. Possessed of large tracts of rich land, which was easily procured at a trifling expence, most of the settlers became cultivators for themselves. Those who had purchased larger shares than they were able to cultivate alone, found a difficulty in procuring labourers, and the price of labour rose proportionably high. A large family, far from being a burthen, was a source of opulence to the parents, and marriages were consequently early and universal. The price of provisions was extremely low, for although the labour which was employed in producing them was much dearer than in old countries, yet the rent of land which here forms so considerable part of their price was more than proportionably less. In such a state, population advanced with rapid strides, and nearly the same rapidity continues. Twenty-five years is the time in which the whole population of the States is doubled; but in some of the back settlements, where the manners are more pure and the air more salubrious, its rapidity must be greater;

greater; for during a long time the number of deatks in the larger towns has exceeded the births, and a constant supply from the country was therefore necessary to support their population.

But although Nature has endued the human species with this astonishing fecundity, it is certain that their numbers must always be limitted by the means of subsistence. The food which is necessary for the maintainence of a million of inhabitants cannot afford the same subsistence to a million and half; and although the share of each individual may be somewhat lessened, there is a point at which this diminution must stop. In a country which has been inhabited for a considerable time, the only addition to the quantity of the means of subsistence must depend upon an increase of the cultivated land, or an improvement in the art of cultivation. Its increase will now be slow and gradual, and population, notwithstanding its natural rapidity, must accommodate itself to this motion. Its elastic spring will be constantly pressing against the barrier of subsistence, but the scarcity of food in a variety of forms will be as constantly acting in curtailing its exuberance. That the slow increase of the inhabitants of old countries arises from a scarcity of food is sufficiently proved by its instant rapidity on the removal of this cause. The various checks to population, which are constantly operating in this state of society, and equalizing the numbers with the means of subsistence, may be classed under two general heads.

1st. Those which diminish the number of births that would otherwise take place.

2d. Those which tend to shorten the natural term of human life.

Under the first is ranked that unwillingness to marriage, which in all modern countries has considerable influence, and which arises from the difficulty of maintaining a family. Indiscriminate intercourse of the sexes, which destroys the fruitfulness of conception. Under the second head come filth, deficiency of food, large towns, unhealthy occupations, and diseases of all kinds.

I have here endeavoured to state my principles with perspicuity and conciseness, and to be sufficiently ample for my present purpose; of their truth I have little doubt, but should any exist in the mind of the reader, I refer him to the Essay on the Principle of Population by Mr. Malthus, from which the preceding is an abstract, whose lucid reasoning will remove every obstacle to conviction, except insurmountable prejudice.

I now

I now proceed to a view of the probable consequences of the extermination of the small-pox. England is highly and extensively cultivated, and an increase of the quantity of food must be necessarily slow; here therefore a variety of checks are necessary to restrain the number of the inhabitants within the means of subsistence; and among the diseases which form so large a part, the small-pox held an eminent station. It is stated by Dr. Heberden in his Observations on the Increase and Decrease of Diseases, that of every thousand deaths the average number to be attributed to the small-pox is 95. The population of England being 9,168,000, and the annual mortality of the kingdom 1 in 40* of the inhabitants, which is 229,200, the number which annually died of this disease alone is 21,774. If so considerable a check to population be removed, no one can doubt that another equally efficacious will arise, and the only question to be asked is, whether the exchange will ultimately be beneficial? In calculations of happiness, the philosopher turns his attention to the labouring poor as the great mass of every community, and the present object of my inquiry is, in what manner they will be influenced by the removal of this check. A plenty of the necessaries of life is an essential ingredient of happiness, and the quantity in the possession of the poor depends upon the liberality with which their labour is rewarded. The wages of labour depend upon the proportion which the demand for labour bears to the quantity of labour in the market. If the demand be greater than the supply, the wages of labour will be high; but if the supply be greater than the demand, they will be proportionably low. The demand for labour depends upon the funds destined for the payment of wages, which are of two kinds: 1st. the annual revenue which is more than necessary for the maintainence; and 2d. the stock which is more than necessary for the employment of masters. It is evident that the supply of labour depends upon the number of labourers.† Since the inoculation of the small-pox has been introduced into this country, its mortality has principally fallen upon the poor, who either from carelessness, the expence of inoculation, or some other cause, have neglected to make use of that preventive, while a constant source of infection was kept up by

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* Malthus's Essay on Population.

† This subject is amply and clearly treated in Dr. A Smith's Wealth of Nations.

by it; thus many who would otherwise have lived to maintain themselves by their labour, are cut off in infancy, the supply of labourers is diminished, the wages of labour are raised, and the happiness of the poor is consequently increased. Who then can doubt the consequences of destroying this disease? A large addition will be made to the present quantity of labour, the wages will be reduced to the most miserable subsistence of the labourer, and all the evils of squalid poverty will be diffused among the most considerable class of the society. The increased price of provisions, which will be the necessary effect of the increased number of inhabitants, will lessen the demand for labourers; for in such a time of scarcity, masters will diminish the number of their servants. But though population will thus for a time be raised above its proper level, this cannot continue long. Misery, arrayed in all her terrors, will extend her destructive arm, and mankind will shrink beneath her poisonous touch. Truth obliges me to sketch this melancholy picture, and I hasten from it to a task less disagreeable.

As the paper of Credulous contained nothing of argument which militated against my opinions, that signed J. J. is the only one I have to examine; and for the sake of perspicuity, I will take the arguments in the order he has placed them.

"1. As great a number of men exist at all times as the earth is able to support." In this statement it was evidently meant by Scepticus, as many as the *present* productions of the earth are able to support, for no one can doubt that if the means of subsistence be increased, population will rise to an equal height; the answer is therefore inapplicable.

"2. Vice and misery were introduced to prevent an increase of population." There are only two ways of explaining the observations made on this statement by J. J. either he was inclined to cavilling, or he was ignorant of the nature of the question concerning the origin of evil. Philosophers have endeavoured to make the existence of evil consistent with the infinite benevolence of the Deity. A great part of the vice and misery in the world proceeds from the constant tendency of mankind to increase beyond the supply of food; this tendency is therefore in one sense its cause: but the question still presses upon the mind, why this tendency? The enquiry might be carried through a long succession of causes, up to the very plan of the creation, and the question would still demand explanation,

why

why this plan from an infinitely wise, powerful, and benevolent Being?

"3. Disease is a species of misery, and the small-pox is a species of disease." Against this my antagonist does not contend, but he immediately adds, "the conclusion (*i. e.* the impropriety of exterminating the small-pox) cannot be allowed, for it is deduced from premises which are *doubtful* or *false*." I flatter myself I have already proved it to be deduced from premises which are *certain* and *true*.

I now come to the last observation which I have to examine: "The conclusion, if it has any weight at all, has too much; it proves the impropriety of attempting to prevent any other disease as well as the small-pox." The unavoidable necessity of checks to population being proved, the only question which remains is, which are to be preferred, as to *these* we should endeavour to transfer the influence of the others. In relation to the comparative advantages they possess, I think they may be placed in the following order.

1st. Want of inclination to marriage.

2d. Those diseases, whose mortality falls principally upon infants. The death of an infant excites a temporary uneasiness in the minds of the parents, but time soon wears away the impression, and society receives no injury.

3d. Those diseases whose mortality falls principally upon adults. The cords of affection which bind us to our worldly attachments, become more strong and numerous as age advances, and the pain from their rupture more acute; a wife and family, who depended for subsistence upon the personal exertions of the deceased, may be left destitute of support, or the burthen must fall upon society; in either cases the evil is considerable.

4th. Vice, or that indiscriminate intercourse which takes place between the sexes, destroying the fruitfulness of connection. Reason and religion oblige me to place it at the bottom of the scale.

The small-pox must certainly be placed among the second in the scale, and yet so desirable and considerable a check is in danger of being removed by the impertinent and meddling hand of man. The preceding principles incontrovertibly prove, that it is impossible to remove one check without giving rise to another; and when it amounts to so great a certainty, that the succeeding check will be a greater evil than that which we remove, the impropriety of our conduct is evident.

March 9, 1804. PHILANTHROPUS.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

AT a time when the study of Botany has become a source of fashionable and popular amusement, and when the science of medicine, diffusing itself more extensively than at any former period in the public notice, has more or less occupied the attention of the unlearned, it may perhaps be an acceptable and not altogether useless attempt to unite in a popular form, these two branches of science. They are by nature intimately connected; and the powerful and varied effects, which are produced on the human frame by the numerous members of the vegetable kingdom, mark the destined union of the two sciences, and declare, that without the assistance of Botany, the study of Medicine cannot be complete. Chemistry indeed is also an indispensable handmaid to medicine; and, as poetry, painting, and music have been termed the sister arts, so these three may be called the sister sciences. But as chemistry is neither reducible to so precise limits as her sister, nor capable of being brought so much within reach of universal observation, the compiler of the following sheets has confined himself to an enumeration of the benefits, which from botany alone may be derived to the practice of medicine. Where any plant has appeared to be otherwise useful, either in the cultivation of the arts or the improvement of manufactures, as increasing the catalogue of esculents, answering the purposes of domestic economy, or contributing to the advantage of the farmer; these various properties have been carefully collected. The compiler claims no other merit than that of accuracy. He has consulted some of the most approved medico-botanical authors, that have fallen in his way; as well those who professedly treat of the subject in hand, as those who have only glanced at it incidentally in the course of their writings.

While there shall continue to exist a numerous class of society, reduced to the necessity of labour for their daily sustenance, and as long as there shall be found large portions of the world remote from medical assistance, it is impossible that in all cases the care of a legitimate son of Esculapius can be obtained by the sick; and, notwithstanding

standing the well intended and, in some degree, just caution given by the learned, zealous, and benevolent high priest of Hygeia, in the second number of his monthly sacrifice at the shrine of that goddess, recourse must often be had for medical advice by the indigent and the solitary, to persons not regularly initiated into the mysteries of the faculty, nor stamped with an M. D. In spite of doctors, diseases will intrude; and it would probably be a task of difficulty to persuade the charitable 'squire's lady, or the humane country clergyman, that true charity and humanity require them to remain strictly neutral during the struggles of a poor helpless neighbour against the assaults of sickness, because they are not licensed by a diploma from Edinburgh or Oxford.

The stores of Nature for the relief of her creatures are unbounded: the disorders of the poor, and those untainted with the corruptions of luxury, are, generally speaking, simple; and every field, every wood, every despised ditch, every barren waste almost that displays itself before the eye of ungrateful man, presents him with a variety of remedies for his sufferings, and of palliatives for the consequences of his own folly or wickedness. To offer these to view in the most popular and comprehensive form is the present design: The compiler has extracted from a considerable number of volumes, and endeavoured to reduce into the smallest compass possible, the various properties ascribed to the indigenous plants of the British Isles: And as far as the knowledge of them appeared to be generally conducive to the advantage of society, or negatively desirable by way of caution against the effects of deleterious vegetables, no pains have been spared to render the detail full and satisfactory.

The botanical department is built chiefly on Dr. Withering's *Bot. Arrangement*; and from thence the descriptions of the plants have been uniformly adopted, as given in his third edition, 1796.

Dr. Woodville's medico-botany is the ground work of that part which relates to medicine; and whatever facts are adduced or opinions recorded, they are each carefully ascribed to their respective authors. In some instances, where quotations have been copied from an intermediate writer, the name of the original author only, has, for the sake of brevity, been cited in this compilation.

Catalogue of such British Plants as have been found in any Shape serviceable to Man, whether in a medicinal, œconomical, culinary, or agricultural Point of View, together with an Account of the Uses which they have been made to answer, and an accurate botanical Description of each Plant.

Class I. Monandria.

Monandria, Monogynia.

1. Salicornia, *S. herbacea, S. europæa herbacea, S. internodiis longioribus.*

Anglice. Jointed glass wort, salt wort, sea-grass, marsh samphire.

Generic description. Calyx, rather bellying. *Seed* 1.

Specific description. Herbaceous, wide spreading, joints flatted at top and notched; scarcely nine inches long. Flowers in a spike, near together, three on each side. *On the sea shore, common.* Bloss. Aug. Sept.

Use. It is from the ashes of this plant that is obtained a fossil alkali, in great request for making soap and glass, which is known by the name of *soda,* and is chiefly made on the coasts of the Mediterranean. On the coasts of England, the green plant steeped in salted vinegar, is sold as samphire, to which, made into a pickle, it is very little inferior. The whole plant has a saltish taste, and is greedily devoured by cattle. *Withering.*

2. Hippuris. *H. vulgaris.*

Ang. Mare's-tail, paddow pipe.

Gen. desc. Cal. none; *summit,* simple; seed 1.

Spec. Desc. Leaves awl-shaped, eight to twelve in a whirl round the joints, narrow; *stem* straight, jointed; *flowers* equal in number to the leaves, and at the base of each leaf. *Muddy ponds and ditches (not common) in Scotland, Gloucestershire, and N. W. of Lancashire.* Blos. May.

Use. A very weak astringent. Goats eat it, but cows, sheep, horses, and swine refuse it.

Class II. Diandria.

Diandria, Monogynia.

1. Ligustrum. *S. vulgare. S. germanicum.*

Ang. Privet. prim. print.

Gen. desc. Bloss. four-cleft; *berry,* with two cells, two seeds in each cell.

Sp. desc. Leaves egg-spear shaped, entire, in opposite pairs, sometimes

sometimes by threes, sometimes alternate. *Blossoms* white; segments thick and fleshy; stamens sometimes three or four. *Berries* black, egg-shaped; continue through the winter. *In hedges on gravelly soils.* Bloss. June, July.

Use. The leaves are bitter and slightly astringent. The berries are filled with a dry, spongy, violet pulp, from which a rose-coloured pigment may be prepared. With the addition of alum, the berries dye wool and silk of a good and durable *green*: for this purpose they must be gathered as soon as they are ripe. Oxen, goats, and sheep eat it: horses refuse it.

2. Veronica. *V. officinalis. V. mas supina. V. vera et major.*

Ang. Speedwell, male speedwell, fluellin.

Gen. Desc. Bloss. border four-cleft; lower segment narrowest; *caps.* two-celled.

Spec. Desc. Leaves egg-shaped, serrated, hairy underneath and at the edges, opposite. *Stem* trailing. *Floral leaves,* strap shaped. *Blossom,* purplish blue; tube about half as long as the cup, white fruit stalks very near the end of the stem, but not terminating. *On barren ground and heaths.* Bloss. May, Aug.

Use. The leaves are slightly astringent and bitter: It is called by the French *thè d'Europe,* and Hoffman has, with many others about a century ago, recommended an infusion of them as a substitute for tea, but it is more astringent and less grateful. *With.* It is a good *antiscorbutic,* and has been used in the *gout* and *rheumatism—Hill.* As a medicine also numerous virtues have been ascribed to it, especially in disorders of the lungs, as *coughs, asthmas, consumptions,* &c. in which it is said not only to prove *expectorant,* by also by its extraordinary vulnerary power to heal internal ulcers. But to be judged of, by its sensible qualities, it is only to be recognized as an *astringent,* and not being sufficiently powerful to produce any considerable effect, is now disregarded by medical practitioners. *Woodville.* It is eaten by cows, sheep, goats, and horses, but swine refuse it.

3. Veronica. *V. Beccabunga. Anagallis aquatica vulg.*

Ang. Brooklime.

Gen. Desc. As above.

Spec. Desc. Leaves egg-shaped, flat, serrated with glands. *Stem* creeping. *Blossom* blue; bunches lateral; germen sitting on a thick yellowish-green glandular substance *In slow shallow streams,* and near springs that seldom freeze,

freeze. The whole plant smooth and succulent. Bloss. June.

Use. This plant was formerly esteemed as an external application to *wounds and ulcers,* and was used in many diseases: it is now valued only for its antiscorbutic virtues; as a mild refrigerant juice, it is preferred in that disease which has been called the hot scurvy. To derive much advantage from it, the juice ought to be used in large quantities, or the fresh plant eaten as food—*Woodville.* The leaves are mild and succulent, and are eaten in sallads early in the spring. Cows, goats, and horses eat it; it is refused by swine.

4. Veronica. *V. chamædrys. Chamædrys spuria. C. sylvestris.*

Ang. Wild germander, germander speedwell.

Gen. Desc. As above.

Spec. Desc. Leaves egg-shaped, sitting, wrinkled, toothed. *Stem* with two opposite rows of hairs. *Bunches* lateral, frequently opposite. *Blossom* fine blue. In pastures, sides of hedges. Blos. May.

Use. The leaves are a better substitute for tea than those of the V. officinalis, being more grateful and less astringent. Cows and goats eat it; sheep, horses, and swine refuse it.

[To be continued.]

CRITICAL ANALYSIS

OF THE

RECENT PUBLICATIONS

ON THE

DIFFERENT BRANCHES OF PHYSIC, SURGERY, AND MEDICAL PHILOSOPHY.

The Anatomy and Surgical Treatment of Congenital and Inguinal Hernia; by Astley Cooper, F.R.S. &c. &c.

(Continued from pp. 279—282.)

In the ninth chapter the author treats of the circumstances to be considered previous to the operation. Every practitioner has had reason to lament that so much precious time is often wasted in fruitless attempts at reduction by the taxis long after every reasonable

able prospect of success has vanished; and a few instances to the contrary do not invalidate the general rule of operating as soon as possible after this period, when it may still be done with probable safety and success. The death of a late highly esteemed nobleman is understood to be one of the many melancholy instances in proof of this rule of practice, which the author enforces with due attention.

Mr. C. observes that there is no very obvious criterion to determine the latest time to which the operation may be safely delayed. Hiccough, though a common symptom of mortification, is not always present in this state, and often occurs before it is established, as has been proved by many successful operations at the Hospitals in the Borough after hiccough has appeared. Soreness of the belly on pressure, succeeding great tension of the abdomen, Mr. C. thinks the least fallible sign of inflammation having proceeded to a fatal extent.

The operation itself is the subject of the next and very important chapter, part of which we shall give to our readers on account of the valuable, and in some degree original, observations which it contains. After describing the method of making the incisions through the integuments, and of opening the sac so as to expose its contents, the main object of the operation, namely, to relieve the stricture, is the next care of the surgeon. By carrying his finger up the hernial sac, he will find the stricture in one or other of the three following situations.

"First, at the abdominal ring.

"Secondly, above the ring, from one inch and a half to two inches, and inclining outwards toward the spinous process of the ilium.

"Thirdly, in the mouth of the hernial sac.

"If the stricture is owing to the pressure of the columns of the tendon which form the abdominal ring, it is then to be divided in the following manner. The surgeon passes his finger into the sac, as far as the stricture, and then conveys a probe-pointed bistory on the fore part of the sac, and, insinuating it within the ring, cuts through it in a direction upwards opposite to the middle of the sac, and to an extent proportioned to the size of the tumour. . . .

"It is best to divide the stricture by passing the knife between the ring and the sac, as a larger portion of peritoneum is thus left uncut, and the cavity of the abdomen is afterwards more easily closed.

"The direction given to the knife in dilating the stricture has been usually upwards and outwards towards the spine of the ilium, but I prefer doing it directly upwards for the two following reasons: First, as the higher aperture must only be dilated directly upwards, it is better that the surgeon should have one general rule for the use of the bistory, applicable to every case of inguinal hernia, than to be perplexed in the operation by a variety of directions; and, secondly, the division of the tendon in this direction weakens the

the abdomen less than upwards and outwards, because, as the cord passes towards the abdomen in that direction, and the hernial sac is parallel to the cord, a dilatation in that course takes off the resistance which the tendon would otherwise make to any future descent. When the ring is divided directly upwards, the upper column of tendon which forms it, is cut; when it is dilated upwards and outwards, the transverse fibres uniting the columns are divided."

The second situation of stricture is above the ring, towards the spinous process of the ilium, at the orifice whence the hernia first quits the abdomen; and the constriction is occasioned by the tendon of the transversalis passing over the hernia, and the resistance of the edge of fascia under it. Here the Author lays down the following direction.

"The surgeon passes his finger up the sac and through the abdominal ring, till he meets with the stricture; he then introduces the probe-pointed bistory with its flat side towards the finger, but anterior to the sac, and between it and the abdominal ring, his finger being still a director to the knife. Thus he carries the knife along the fore part of the sac until he insinuates it under the stricture formed by the lower edge of the transversalis and internal oblique muscles, and then turning the edge of the knife forwards, by a gentle motion of its handle he divides the stricture sufficiently to allow the finger to slip into the abdomen; the knife is then withdrawn, with its flat side towards the finger, as it was introduced, to prevent any unnecessary injury to the parts."

The direction of this [dilation being straight] upwards, scarcely any risk is incurred of cutting the epigastric artery.

The third seat of the strangulating stricture is a thickening of the mouth of the sac itself, but which the author considers as a rare occurrence.

The chapter concludes with remarks on the treatment of the omentum, in which the Author condemns the custom of applying a ligature round it, to make it slough away, as has sometimes been practised.

The succeeding chapter, on mortification of the intestine, contains some discriminating practical remarks and original experiments, in confirmation of them, which deserve notice. The treatment is the following. "As the intestine, when mortified, cannot be returned into the cavity of the abdomen, the surgeon is to consider in what manner he is to proceed, to save his patient from that most miserable state of existence which is produced by an artificial anus. In forming his judgment upon this subject, he will be directed by the state in which the part is found.

"If a small hole only has been produced, the intestine should be returned into the abdomen, excepting that portion of cylinder in which the hole exists. A needle and ligature should be passed through the mesentery at right angles with the intestine, to prevent it including the branches of the mesenteric artery which supply that part of the intestine, and then through the mouth of the hernial

nial sac; and tying the thread, the intestine becomes confined to the mouth of the hernial sac, and the fæces pass readily from the opening by the wound, but will in part take their course by the rectum. As granulations arise and the wound becomes closed, the opening in the intestine is gradually shut, and an artificial anus is effectually prevented."

This first variety is illustrated by a successful case.

But when the whole cylinder of intestine is mortified, Mr. C. advises that "the mortified part of the intestine should be cut away, and the ends brought in contact, and confined by means of four ligatures."

Some experiments follow. The author divided entirely the intestine of a dog, introduced within it a cylinder of isinglass, and made three sutures upon it, so as to unite the divided bowel. In three days the animal had stools; and on the sixteenth day, when he was killed, the union was found complete. The same was repeated without the isinglass, and with equal success. In both these experiments, when the intestine was returned, the ends of the ligatures were left hanging out of the wound.

Other experiments are introduced, which were made by Mr. Thompson, Lecturer in Surgery in Edinburgh. In the first of these the intestine of a dog was divided, then sewn up as before, but the ligatures returned entirely into the abdomen, and the external wound closed. On the tenth day the animal was killed in health; the intestine was perfectly united, the traces of the ligatures partly obliterated on the outside, and some of the threads had disappeared; and as they had passed through into the intestine, they had doubtless been discharged by stool. A second experiment, in which more time was taken, gave a similar result.

These experiments are valuable, as they shew the comparative safety of returning a ligature of the intestine into the cavity of the belly, though the author prefers retaining the ends of the threads at the external wound. The subjects of the experiments, however, were animals in previous health; and the author himself admits, that a suture of the intestine in hernial cases sometimes brings on such dangerous symptoms, that an immediate removal of the threads is requisite. This interesting chapter concludes with further experiments and remarks on the union of wounds in the intestine.

The treatment after operation is that usually adopted. It has been proposed by some to effect a radical cure during the operation, by removing the sac either with the knife or by ligature. Mr. C. shews the danger and usual impracticability of this proceeding; the danger chiefly attends the ligature from the well known tendency of inflammation to extend through membranes in all their extent from a single morbid point.

A separate chapter is made on the treatment of *very large Herniæ*, chiefly as leading to an improvement in the mode of operation. This is before mentioned in describing the common opera-

 tion,

tion, and is repeated here as particularly applicable. It is to return the herniæ merely by dilating the stricture, *without* opening the sac; a practice which the author appears first to derive from the eminent Professor at Anatomy at Edinburgh. "Dr. Monro, of Edinburgh, to whom it would be ingratitude not to acknowledge the obligation I feel for the instructions conveyed in his Lectures, has strongly urged the propriety of dilating the abdominal ring, without opening the sac, in hernia in general; and I feel convinced that this operation will be gradually introduced into general practice, when it has been fairly tried, and found, if performed early, to be free from danger, and attended with no unusual difficulty."

The propriety of this practice the author states to be peculiarly applicable to very large herniæ, on account of the accumulated difficulty of returning the hernial contents, from their frequent adhesion, and from the habitually diminished size of the abdomen, which expose the intestine, if the sac is opened, to a degree of unavoidable injury from the operator that often proves fatal. Two useful cases are given in illustration of each method; the one successful, the other fatal.

Very small hernia are next considered. These are in fact *incipient* hernia, or protrusion of the intestine through the upper abdominal opening, extending only to the ring, and not descending into the scrotum.

The tumour produced by this variety is very small, not more than by an enlarged gland, and hence they are sometimes overlooked, and the patient dies as is supposed from some bowel complaint unconnected with surgery. The operation for this hernia only requires the incision to be made above the ring, towards the spinous process of the ilium.

Sometimes the sac itself has been returned, when being recent, it has contracted no considerable adhesion to the adjacent tendons.

An important variety of hernia is next described. It is a descent of the intestine *directly opposite the abdominal ring*, and not obliquely from the upper abdominal opening in the course of the spermatic cord. This variety is really what common inguinal hernia was formerly supposed to be. It is thus described "The abdominal ring is closed towards the abdomen by the tendons of the internal oblique and transversalis muscles. The lower parts of these tendons are inserted into the pubis, and connected with the fascia which passes upwards from the external oblique muscle at Poupart's ligament. If this tendon is unnaturally weak, or if from malformation it does not exist at all, or from violence has been broken, a protrusion of the viscera may then take place immediately behind the ring. . . . . Below the abdominal ring the appearance of this tumour differs from that of common bubonocele in being situated nearer the penis, and the spermatic cord passes on its outer side, instead of its posterior part, particularly at and above the abdominal ring. Above the abdominal ring the sac passes directly upwards, so that no part of it takes the usual oblique direction

direction towards the anterior superior process of the ilium, but rather the contrary direction towards the navel. Examined by accurate dissection its course is as follows: The sac first protrudes between the fibres of the tendons of the transversalis, nearly an inch directly above the ring. It then passes under the lower edge of the tendon of the internal oblique muscle. The epigastric artery runs upon the outer side of the hernial sac. The spermatic cord has no connection with it above the ring. The hernia then emerges from the abdominal ring, the spermatic cord being on its outer side, and it is covered with the facia given off by the tendon of the external oblique but not by the cremaster muscle."

The most important circumstance in this variety of inguinal hernia is the situation of the epigastric artery, which is precisely the reverse of that in ordinary bubonocele; in the common disease the epigastric artery runs on the inner side of the tumour, or nearer to the linea alba; in this variety it is situated on the outer side: Consequently, the dilatation of the stricture upwards and *outwards* will in this instance divide the artery, an accident generally fatal from the hæmorrhage into the cavity of the abdomen. To avoid it, Mr. C. observes that it would be the best in these cases to dilate *inwards*, if the nature of the variety is fully ascertained; but as the diagnosis is sometimes difficult, and as too much must not be left to the discrimination of every surgeon who may be called to operate on hernia, and because cutting inwards would incur the same risk of dividing the artery if the bubonocele were of the more common species, he advises to dilate here, as in every other instance, *directly upwards*, which will avoid this danger in either case.

Very frequent dissection has convinced Mr. C. that the above-mentioned variety of hernia, emerging from the abdomen opposite the ring, is by no means uncommon.

Nothing particular occurs in the Chapter on Hernia in the Female.

The volume concludes with a very instructive chapter on Congenital Hernia, in which a curious variety is given by Mr. Forster, surgeon to Guy's Hospital, of a hernial sac existing within the tunica vaginalis.

The plates contained in this volume form so large and important a part of its contents, that they require to be individually noticed. This we shall do in a few words, premising, that to the elegance of beautiful execution on the part of Mr. Heath, the engraver, they unite the advantage (in a scientific work infinitely more important) of being drawn apparently with perfect fidelity by Mr. Kirtland, of the natural size, from preparations, as we are informed in the Preface, actually in the author's possession, or in the Museum at St. Thomas's Hospital.

The first plate is purely anatomical, shewing the healthy structure of the parts immediately connected with hernia, particularly the insertions of the oblique muscles, Poupart's ligament, the valvular structure of the upper abdominal opening, and the passage of the spermatic cord through it down to the ring. The

The second plate is an internal view of the same opening, and the relative situations of the spermatic, epigastric and iliac arteries.

The representation of hernia succeeds in the next; on one side large and old, filling the scrotum; on the other incipient, or of the kind described in the chapter on small hernia, appearing like an enlarged gland.

The next, an internal view of the same, shewing the effect of gradual enlargement in old bulky herniæ, to bring the upper abdominal opening nearly opposite to the ring.

In the next, several smaller figures are given, shewing the relative situation of the epigastric and spermatic vessels, the gradual progress of hernia, septa dividing the hernial sac, the effect of the improper use of trusses in only partially obliterating the disease, and some singular varieties.

In the following plate are described the form and application of trusses, an incipient hernia just quitting the abdomen, and a coloured figure (the only one of this kind in the volume) representing the peculiar livid hue of mortified intestine.

The next plate, which is admirably instructive, exhibits in the same subject, a hernia on each side; on the left, situated at the outer side of the epigastric artery, and on the right, at the inner side. The danger of wounding this artery and the caution requisite to avoid this accident are clearly seen.

An internal view of the same preparation follows.

A still more complicated case of hernia in the same subject is represented in the following plate.

The next is remarkable for the number of herniæ in the same subject, with a complication which could not have been discovered but by dissection.

The eleventh and last plate, containing several figures, exhibits in one that singular variety of inguinal hernia found by Mr. Forster; in the others, illustrates different points in the operation, particularly that of returning the hernia without opening the sac, so strongly recommended in the foregoing part of the work.

The style is a simple enunciation of facts, clear and unaffected. Almost every thing relating to the history of opinions and discoveries in this disease is omitted; the author has appeared desirous to incur a personal responsibility for the accuracy of every fact and assertion, and to confine himself to the results of a multitude of dissections, of which actual demonstration exists in one or two cabinets of anatomy, or to the records of numerous operations of which living witnesses remain. Under a plan thus circumscribed, to have made so valuable an accession to the kindred arts of anatomy and surgery, will be a lasting testimony to the knowledge, professional skill, and unsparing industry of the Author, worthy of the noble field of observation in which they are habitually employed.

This volume is dedicated with peculiar propriety to the eminent Teacher whose lectures on anatomy and surgical skill have for so many years enriched the School of St. Thomas's Hospital.

A Synoptical

A Synoptical Table of Diseases, exhibiting their Arrangement in Classes, Orders, Genera and Species, designed for the Use of Students; By A. CRICHTON, M. D. F. R. S. &c. (This is published in one very large sheet.)

THE Author has prefixed a short Introduction, in which he assigns the reasons which led him to this publication. Many of them have doubtless struck other Teachers, who have felt the impossibility of adhering strictly to any system of Nosology before published.

"The great object to be obtained by an artificial arrangement of the matter of any science, Dr. C. observes, is practical utility. In regard to Medicine, this utility is of two distinct kinds; *first*, the facilitating the business of instruction, and *secondly*, the assisting the practitioner with such hints and views, as well regulated analogy always yields.

"In all sciences, analogy or similitude is the great principle on which arrangement takes place. This analogy or similitude may have reference to different things, not only in different sciences, but even in the same science. In regard to diseases, it may refer either to the phenomena, or to the nature or cause of diseases, or to their seat, or cure; or it may have a mixed reference to all of these. It may easily be proved, however, that if an arrangement of diseases is attempted to be exclusively founded on any one of these grounds, it must be defective. Similarity of symptoms, it is well known, often occurs in diseases of an opposite nature, and an arrangement exclusively founded on such a principle, would connect diseases which had no other natural analogy than external character, and would rather tend to injure than promote the views of practice.

"The seat of diseases has been made the basis of nosological arrangement in a few instances, but it is evident that such a method can only be useful as an assistant to memory, otherwise diseases will frequently be brought together which have no real analogy with each other, either with respect to their causes or cure. No system of arrangement has hitherto been founded on the method of treatment alone, and indeed, considering the state of Medicine, it is evident that it must not only be an imperfect, but in many instances, an hypothetical method; for although we can put a complete stop to many diseases, and medicine and diet are of great advantage in others, over which we have not so complete a dominion, no one can be blind to their inefficiency in many cases, and to the want of agreement among practitioners in physic, both in regard to the indications of cure and choice of means for fulfilling such indications.

"The system of arrangement which is here offered to the student, is founded on every circumstance attending diseases, which furnishes any hint as to their similitudes or dissimilitudes, and is therefore not merely historical, nor ætiological, nor anatomical, but is of a mixed nature, borrowing assistance from all these methods. It follows, at a humble distance, the celebrated works of Sauvages, and Dr. Cullen; for although Sauvages calls his nosological

gical arrangement, an historical one, that is, one which is founded on the history and symptoms of disease alone, yet it is evident to any one who studies it, that he has taken into account, many other circumstances of analogy, and it would therefore appear vain and self-sufficient to pretend that the method here followed is new in its kind.

"But although I have adopted the principles which seem to have regulated both Sauvages and Cullen, it will be found that I have not strictly followed them in the execution of the subjsct; for it has appeared to me, as well as to many others, that Sauvages has not only subdivided too much, but has admitted many diseases as genera, and still more as species, some of which have no pretension to be considered as distinct diseases, and others of which are admitted in more places than one under different names.

"From the arrangement of Dr. Cullen, this table differs on another principle. His fondness for simplifying appears to have led him to generalize more than the nature of the subject justifies, and accordingly he has made too few general divisions or classes; for it will be found that some of his classes comprehend orders, and many orders comprehend genera, which have scarcely the most distant analogy. The just reputation and great learning however both of Sauvages and Dr. Cullen, and above all, the difficulty of the subject, ought to make every one extremely cautious of criticizing, far more of censuring their works.

"In a mere table such as the present one, it will not be expected that I should enter into a detail of those principles which regulate the division of diseases into classes, orders, genera, and species, and explain by what rules genera, species, and varieties are to be distinguished from each other. But when I reflect on the high degree of estimation in which the nosological arrangement of the celebrated Dr. Cullen is so justly held, and how much I have presumed to differ from so great and respectable an authority, I ought to feel it a duty incumbent on me to assign the reasons of my dissenting from him. In a few remarkable instances I have done so in notes, but the size and form of the table has prevented me from accomplishing this in every instance. Should the table fall into the hands of any medical men who are not students, the author intreats them to consider it as a mere guide in his lectures."

Our readers will be able to form an idea of this table from the following abstract of the Classes and Orders, viz.

CLASS I. PYREXIÆ, or Febrile diseases.
    Ord. I. PHLEGMASIÆ, Inflammations.
        Gen. I. PHLEG. sthenicæ.
            Spec. 1. Cephalitis, &c. &c. 23 species.
        Gen. 2. PHLEG. asthenicæ.
            Spec. 1. Erysipelas, &c. 4 species.
    Ord. II. FEBRES, Fevers.
            Contains 11 genera and 38 species.

CLASS

CLASS II. HÆMORRHAGIÆ.

Ord. I. HÆM. ARTERIOSÆ, contains 6 genera and 12 species.

Ord. II. HÆM. VENOSÆ, same genera and species.

CLASS III. FLUXUS, Morbid Evacuations.

Ord. I. FL. cum febre, 4 genera and 8 species.

Ord. II. FL. sine febre, 3 genera and 6 species.

CLASS IV. NEUROSES, Nervous Diseases.

Ord. I. MORB. CONVULSIVI, 7 genera and 13 species.

Ord. II. SPASMI, 5 genera and 10 species.

Ord. III. COMATA, 5 genera and 10 species.

Ord. IV. ADYNAMIÆ, 7 genera and 15 species.

Ord. V. DOLORES, 11 genera and 21 species.

Ord. VI. VESANIÆ, 3 genera and 8 species.

Ord. VII. ERETHISMUS or morbid sensibility, 2 genera and 7 species.

CLASS V. INTUMESCENTIÆ, Swellings.

Ord. I. HYDROPES, dropsies, 6 genera and 13 species.

Ord. II. INTUM. ADIPOSÆ, 1 genus and 2 species.

Ord. III. INTUM. FLATUOSÆ, 2 genera and 4 species.

CLASS VI. CACHEXIÆ, Morbid Habit of Body.

Ord. I. CACH. ANTONICÆ; this order includes scrophula and morbid enlargements of the viscera.

Ord. II. CACH. CONTAGIOSÆ, lues, yaws, &c.

Ord. III. VITIA CACHECTICA, cutaneous diseases and mortifications.

CLASS VII. EPISCHESES, Retention of natural discharges, 9 genera and 21 species.

CLASS VIII. LOCALES.

Ord. I. DYSCINESIÆ INFLAMMATORIÆ.

Ord. II. DYSC. ATONICÆ.

Ord. III. HERNIÆ.

Ord. IV. PROLAPSUS.

Ord. V. LUXATIO.

Ord. VI. TUMORES.

Ord. VII. VULNUS.

Ord. VIII. ULCUS.

Ord. IX. FRACTURA.

The modesty of the author's preface disarms criticism, otherwise we would ask, why an order of *painful diseases* should have been admitted at all; and if admitted, why gout, stone, colic, cramp, &c. should have been excluded from it? These, and several other questions which may be asked, are, doubtless, answered in the lectures; and on the whole, we consider this arrangement as very well adapted to the purposes of teaching, and the practice of medicine.

MEDICAL AND PHYSICAL INTELLIGENCE.

[FOREIGN AND DOMESTIC.]

Mr. BUCHHOLZ, of Erfurt, recommends the following improved method of preparing arsenic acid: Having mixed together two parts of muriatic acid, of 1,200 specific weight, eight parts of finely pulverised oxyd of arsenic, and twenty-four parts of nitric acid, of 1,250 specific weight; pour the liquor into a glass retort, and let it boil till all the oxyd is dissolved, and no red fumes of the nitrous acid be disengaged. If the nitrous acid should be more concentrated, sixteen parts of it will be sufficient to be gradually added to the above mixture, but then it is necessary to pour this acid to it, during the act of boiling, till the nitrous fumes cease to be disengaged. The liquor is now evaporated to dryness, but care must be taken that no arsenical fumes be evolved. The white dry mass, which is thus obtained, must be preserved in close vessels, either by itself or dissolved in water. The properties of this acid are the following:—It acts as a powerful poison on the animal body. In the dry state it is white and quite tasteless. It is slowly dissolved in from four to six parts of water, of a middle temperature. In boiling water it is soluble in almost all proportions; and even with a quarter part of water, it forms a solution of the consistency of a syrup, which being suffered to stand and cool, deposits crystalline grains. It attracts the moisture of the atmosphere and grows liquid. Its solutions have a sourish taste. In a moderate fire it remains fixed, and becomes a clear and limpid fluid; but by degrees it is changed into oxyd of arsenic, and is volatilised in form of fumes. In the state of being melted, it corrodes the earthen and glass vessels in which it is melting, forming vitreous masses, partly soluble, partly insoluble in water, which depends on the duration of the melting, and the quantity of siliceous earth that is dissolved; these masses being dissolved in water, depose the siliceous earth. It contains in 100 parts 14½ ct. more oxygen than the oxyd of arsenic; or, 100 parts of oxyd of arsenic absorb almost 17 per ct. more oxygen, when changed into arsenic acid.

Professor TROMMSDORF, of Erfurt, has adopted a new method of preparing muriated barytes, founded on the mutual decomposition of the sulphat of barytes or heavy spar, and of the muriat of lime, which takes place when both are heated and melted together. The experiments made by that gentleman yielded the following results:

1. The heavy spar is decomposed by the muriat of lime in the dry way, but not all at once. 2. The muriat of lime, melted in

every

every proportion with the sulphated barytes, gives muriat of barytes and some muriat of lime; and if a less proportion of the latter be taken, only a small quantity of sulphated barytes is obtained. 3. The best proportion seems to be, to take equal parts of muriat of lime and of sulphated barytes. 4. The sulphated barytes is entirely decomposed by melting it repeatedly with muriat of lime; and the muriat of barytes, which is thus procured, has a great degree of purity, and may be freed from the adhering muriat of lime by alcohol, or again dissolving and crystallising the mass. 5. The preparation of the muriated barytes, made in this manner, is the most profitable, particularly if the muriat of lime is obtained during other pharmaceutical processes, as the preparation of the spir. sal. ammon. caustic.

The process for obtaining muriated barytes is as follows: Take white sulphated barytes that has been properly glowed, and muriated lime, four pounds of each; pulverise and mix them well, and put them into a large crucible, which is afterwards covered. Keep the vessel over a good fire till it becomes red hot; the mass being melted, pour it into an iron vessel, and let it cool. Reduce the mass into small pieces in an iron mortar, and having poured it into an earthen vessel, infuse it with ten pounds of boiling water, stirring it frequently, and afterwards filtrate it through a strainer of linen. All the liquor having run through, put it aside; then pour the residuum into a clear iron vessel, and dry it over a gentle fire. Mix it again with four pounds of muriat of lime, and put it into the red hot crucible, treating it in the same manner as before. The residuum is dried and treated again with three pounds of muriated lime. All the liquors which are thus obtained, are evaporated in an evaporating dish till a cuticula forms itself on the surface; and in the temperature of 5 to 8° above the freezing point, all the muriated barytes contained in the liquor, will shoot into fine crystals; otherwise the liquor must be farther evaporated till the whole be crystallised. Put the thus obtained crystals on clean blossom paper in a sieve, and place them during several days in an airy warm place. Dissolve them again in water, and let them crystallise; in which manner, crystals of a very white colour will be obtained, if the heavy spar and the muriated lime have been quite free of iron particles, and if the iron vessels that are used in this process be clean and well polished. In this manner from four pounds of heavy spar, three pounds of muriated barytes may be obtained.

M. Jean Baptiste-Louis Routier, Physician and Member of the Society of Emulation at Amiens, has lately published at Paris, a pamphlet entitled, Considerations on the Malady peculiar to Women in Labour, called the puerperal fever. This interesting dissertation, particularly so to young students, was the object of a public act in the School of Medicine at Paris; it is divided into three articles; In the first, the author endeavours to prove that the fever

fever termed puerperal has no actual existence; that what authors have admitted under this denomination, is a phlegmasia of the order of phlegmasiæ, of the diaphanous or serous membranes, almost always complicated with a fever, which may, says the author, be referred to the orders of known fevers. In the second article, he describes and classes these different complications with which the phlegmasia appears, and by which it is almost always governed; which requires that the physician should turn his whole attention to this part in the malady here referred to. In the third article, M. Routier endeavours to establish, conformably to these views, the treatment proper to the puerperal fever, and the different modes of its termination, &c. &c.

A new Work, entitled, An Examination of the Mineralized Remains of Vegetables and Animals of the Antediluvian World, generally termed Extraneous Fossils, illustrated by coloured Plates, by JAMES PARKINSON, Part the First, containing the Vegetable Kingdom, will be published on the 1st of June next.

TO CORRESPONDENTS.

Dr. LAMBE's Researches into the Properties of Spring Water, with Medical Cautions against the Use of Lead in the Construction of Pumps, Water Pipes, Cisterns, &c. will be noticed in our next Number.

Communications are received from Mr. Bartlett, &c.

Many of our Readers having requested a General Index of Diseases, Remedies, and Persons, for every *ten* or *twelve* volumes, we desire to acquaint them that such an Index is now preparing.

A CORRESPONDENT, to whom we acknowledge ourselves indebted for several valuable papers, complains of our having omitted and altered some expressions in his last communication; but we assure him that without such omissions and similar alterations, the Reply could not have appeared. It is the indispensable duty of the Editors to consider not merely what a wounded Author may feel, but the language in which his feelings ought to be expressed when transmitted for insertion in the Medical and Physical Journal, as the Nature of the Work cannot admit of its being made the Vehicle of Invective.

ERRATA.

Page 230, line 26, *for* designing, *read* designating.
last line, after strophulus, dele comma.

Page	Line	*for*	*read*
232	24	papulæ	papula.
	36	imitates,	irritates.
233	1	fonthi,	ionthi,
234	2, 3	papilia,	papillæ.
235	28	metastical,	metastatical.
240	25	antimony,	antimonii.